The ILLINOIS Medical Journal

Official Journal of the Illinois State Medical Society

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DR. JOSEPH B. SCHREITER — OUTSTANDING GENERAL PRACTITIONER

Dr. Joseph B. Schreiter of Savanna, Illinois, has been selected as the outstanding general practitioner of Illinois for 1952.

For several months all county medical societies in Illinois have been urged to submit their candidate for this honor, and many applications had been received when the selection was made October 14. The secret committee of the Illinois State Medical Society, representing all parts of the state, looked over the material on each candidate, then, by a process of elimination and a vote, selected Dr. Schreiter.

Dr. Schreiter was born in Darlington, Wisconsin, January 4, 1875, one of four children of David and Hannah Bleasdale Schreiter. After being graduated from Darlington High School in 1889, he took a pre-medical course at the University of Wisconsin. Later he entered Rush Medical College in Chicago, from which he was graduated in 1896. Following special work at the Presbyterian and Cook County Hospitals, he started his practice in Savanna, and has remained there in continuous practice for fifty-five years. He was elected coroner of Carroll County in 1900, and held that office continuously for forty-eight years, which is believed to be a record.

Dr. Schreiter married Miss Besse Beaver at Mt. Carroll, Illinois, September 30, 1903. They have one child, Jesse, a mathematician doing special work for the Army at Ohio State University, Columbus. Dr. Schreiter has maintained his present office in the National Bank of Savanna Building since 1912.

Early in World War I, Dr. Schreiter was commissioned as a First Lieuenant in the Medical Corps, and was a major before being separated from service. He was in France for twenty-two months. He remained in the Reserve, however, and before retirement became a Colonel. He was an organizer, and the first commander of the American Legion Post at Savanna in 1919.

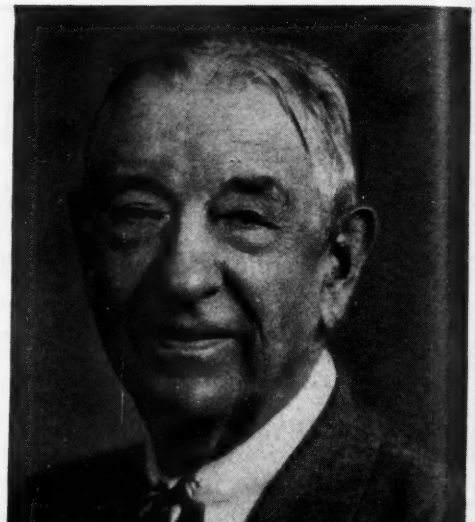
Dr. Schreiter has always been intensely interested in all civic projects and has held many positions locally. He was a member of the school board for a number of years, and also served for some time as city health officer. He has been local surgeon for the Burlington and for the Chicago, Milwaukee and St. Paul Railroads for a considerable period of time. Dr. Schreiter is chief of staff of the Savanna City Hospital. He has been very active as an officer and member of the Board of Directors of the Savanna Savings Building and Loan Association and also of the National Bank of Savanna. Always interested in medical progress, especially obstetrical work, he has been present at the birth

of more than 4,000 babies, and still maintains this interest.

Wednesday, August 8, 1951, the city of Savanna celebrated "Doc Schreiter Day," starting with a parade in the late forenoon, then to the Old Mill Park, where lunch was served, followed by a program, and with Dr. Andy Hall of Mt. Vernon as the principle speaker. On an unusually hot day, more than 4,000 friends of Dr. Schreiter turned out to pay their respects to one they all admired for his fine work, friendly interest in their welfare, and as an outstanding citizen. Business houses were all closed for the afternoon, and most of the 5,000 citizens of Savanna joined in the festivities.

Dr. and Mrs. Schreiter both enjoy excellent health and have mutually been interested in the many problems of medicine, the community, and the nation, and have given unstintingly of their time throughout their married life.

Dr. Schreiter will be the candidate from the Illinois State Medical Society for the outstanding general practitioner of the nation. The selection will be made by the American Medical Association House of Delegates at the Clinical Session to be held in Los Angeles, December 4, 1951. The thousands of friends of Dr. Schreiter, both in and out of the medical profession, are unanimous in the opinion that he is well qualified for this honor.



Joseph B. Schreiter, M.D.

DISCRIMINATE USE OF ANTIBIOTICS

From time to time it becomes necessary to wave the red flag in front of our popular antibiotics to discourage their indiscriminate use by certain laymen and physicians. Complications and side-effects occur and to avoid repercussion we must yield to common sense and good judgment. The toxic effects of penicillin, streptomycin, bacitracin, aureomycin, chloramphenicol and terramycin are well known. The possibility of sensitizing patients to these agents also has been mentioned on many occasions. These drawbacks are reasons enough to recommend their use only when necessary.

During the past few years, the warnings relative to the possibility of developing a strain of bacteria resistant to the antibiotics is becoming less theoretical and more real. The use of these drugs has eliminated from a large percentage of our population the organisms which are sensitive to the antibiotics. But the flora is being replaced by organisms which are resistant to penicillin and related drugs. There is evidence that serious and even fatal infections from penicillin resistant staphylococci are occurring. An enzyme which Abraham and Chain have designated as penicillinase also has been isolated from extracts of these organisms indicating that a potent penicillin inactivator is being produced. It has been obtained from a number of cases where penicillin has failed in the treatment of staphylococcal infections.

It is believed that the germs develop resistance when the concentration of the antibiotic is maintained at below effective bactericidal levels. The non-resistant strains die off and leave a resistant strain which may be suppressed at first but ultimately regrows and leaves in its wake a strain capable of withstanding the effect of the antibiotic.

The Council on Pharmacy and Chemistry has published also a warning statement dealing with the use of aureomycin, chloramphenicol and ter-

ramycin. These antibiotics are capable of transforming the flora of the mouth and intestine by suppressing the normal susceptible bacteria and replacing them with an abnormal bacteria of flora. They mention specifically the possibility of leaving monilia and other yeast-like organisms. This is not serious so long as the monilia remain in the intestinal tract but if the transformation occurs in a lung abscess or bronchiectatic cavity, the outcome may be unfavorable to the patient.

According to the Council, "Deaths from pulmonary moniliasis following therapy with the new antibiotics are known. Also instances of cutaneous moniliasis mistaken for sensitivity have been noted when the newer antibiotics were used in the treatment of disease."

We admit that while moniliasis is rare there is always a possibility that it might develop. We can avoid trouble by acquainting ourselves with the proper indications for antibiotic therapy and by not using them indiscriminately. Use dosages of single agents which have proved to be adequate and effective.

Council on Pharmacy and Chemistry: *Warning Statement to be Included in Aureomycin Hydrochloride, Chloramphenicol and Terramycin Hpdrochloride Labeling*, *J.A.M.A.*, 145:1267 (*April* 21) 1951.

THE RISE OF MEDICAL SPECIALISM IN ILLINOIS

By David J. Davis, M.D.*
Chicago

The most characteristic feature of medicine in Illinois during the period 1850 to 1900 was the gradual rise and evolution of the modern specialties. The main reason for this emergence was the progress that was occurring at that time in the basic sciences throughout the western world. Technological methods, discovered and used in clinics and laboratories, were brought to bear upon the solution of the problems of disease in a multiplicity of ways. These advances as they were applied during this half century were to change fundamentally the practice of medicine in its every aspect.

It is largely on this account that the plan of approach in this second volume of the Medical History of Illinois is altogether different from that in Volume I. In Volume I, the history related chiefly what the doctor did in his daily work among the people, as they came to him or he went to them. As their various ailments were presented to him he did the best he could with little or no regard to specialization. With differential diagnosis in its infancy it was inevitable that many different diseases, with a few symptoms in common, fevers for example, were grouped together, and all were given the same treatment regardless of their true nature.

Furthermore, Volume I of this History is based largely on an orderly regional and/or county plan, telling in a general way and by personal accounts what had transpired in medicine both by the physicians and by the people in the various localities. The entire state in this way was fairly adequately covered. Little variation existed in the experiences either of the doctors or of the people, except perhaps those experiences which resulted from differences in disease distribution in various parts of the state. Such differences on the whole were not very great. Fevers, especially malaria, were common, as were tuberculosis, contagious diseases, diarrheas, dysentery, cancer, pneumonias, bronchial troubles, wounds, infections, abscesses, injuries of many kinds especially fractures, childbirths, and their complications and diseases of the eye, the ear, the throat and the skin. Poisonings by snake bite, poison ivy, white snake root (milk sickness) and some others were less common. Any or all of the above afflictions could appear in a busy doctor's office almost any day, requiring and usually receiving prompt personal attention from the doctor himself. At that time such doctors included the greatly revered family physicians who, as general practitioners, rendered an indispensable service to the people, a service which during those years could not be obtained in any other way. In the rural areas, as well as in the smaller communities, this type of general service has persisted to this day, and, though receding, no doubt will continue for many years to come.

But at approximately the midcentury mark (1850), this general plan of procedure both for the doctor and for the patients slowly but surely commenced to change. This change began primarily in the large cities and in the medical schools. The inexorable law of specialization began to manifest itself in almost everything

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that was being done by the physicians as well as by the people in the home, on the farm, in industry, etc. This trend toward specialization was very gradual. Though it increased at an accelerating rate, even after 50 years, there still existed many competent doctors who managed and treated their patients in principle as they had done in pioneer days.

As already intimated, it was this specialization in medicine which began about 1850 that has made it seem advisable to alter the plan carried out in the first volume, to one that is based on the rise and development of the several specialties. This latter plan seemed to demand that the presentation of the several specialties be allotted to experts qualified in their respective fields. This has been done. These experts for the most part are or have been experienced teachers as well as practitioners. They thus have become familiar with the historical approach to their subjects and have acquired a thorough knowledge of medicine based upon long training and practice.

The first specialists in medicine in the Illinois country appeared among the Indians, primitive and crude as they were. Medical specialization first grew out of the principle of the Division of Labor — a general practice carried on by all races of human beings who enter into the usual relations incident to the art of living. Since man is by nature a gregarious animal, this way of life is one of his basic characteristics.

When the white man first came to Illinois, the American Indians, already there in large numbers, were still living in the stone age. Division of Labor even then was clearly evident in their everyday life. The men did the hunting, fishing and fighting. The women made clothes and tepees, cooked the food, cut the wood, raised the crops and carried on all the menial labor about the camps. Naturally in such a system certain individuals become more expert than others in performing these various activities.

Most matters having to do with health and disease even in the earliest tribes known were in the hands of special groups called medicine men. Living largely in a demon or spirit world, the Indians believed that diseases resulted from the operation of spirits either within or without themselves. The medicine men and the men (or priests) having to do with their religious beliefs were not clearly differentiated. Often they were identical individuals. For the most part these groups were fakirs, witches, charlatans and magicians who practiced the "tricks of their trade" on the sick by presuming to cast out the evil spirits.

In addition to these "spirit men," there were other specialists in this field. A large number were the so-called "herbalists" who devoted their time to wandering through the forests and fields collecting herbs which in the form of decoctions or extracts were used or tested upon themselves or on the sick.

Many of them acquired an uncanny knowledge of herbs of all kinds. These herbs became their "materia medica". The men and women who found and prepared these products sometimes became a group apart. They were looked up to at times with an august respect, or again with fear.

Another group that often became differentiated more or less clearly from the rank and file were the midwives and those having to do with the special diseases of women. In some Indian tribes this specialty was conducted in a private way, and often in separate huts. Even, at times, the patient was left entirely alone as she managed her own labor as best she could and administered whatever therapy the crude Indian practices required.

Still another specialty was physiotherapy and, in particular, that part of this therapy that had to do with hot and cold baths and with the salt waters and springs that were widely distributed in this territory. In the United States are some 2000 mineral springs many of which have hot or warm chemical waters. The Illini country was well supplied with all these waters. At such places, the natives congregated for sweat baths, massage, purging and other treatments. Here, too, animals came in large numbers attracted by the salt thus becoming an easy prey for the Indians. Such localities became the sites of some of our early settlements and cities.

Among the Indians, surgery in an indefinite way was early differentiated from their more general medical practices. Thus arose groups of specialized practitioners of which the bone setters, bleeders, and those who trephined skulls are examples (Paleopathologie. Moodie, Urbana, Ill., 1923. U. of Illinois Press). During times

of war which for many tribes was an almost continuous engagement the care of wounds and of special injuries became the special assignment of these primitive surgeons.

Crude as their medical methods seem to us today, they were no more so than were their efforts in other lines of activity. The Indians took their medical work seriously, with the result that this particular art played a significant role in their lives in many ways. In general, it existed as a universal institution among all the Indian tribes in this country.

The above statements regarding Indian medical specialization are here set forth with the idea in mind that they may furnish a basic, even though a crude and inadequate introduction to the rise of our modern specialties. The underlying principles of evolution and progress are identical in both.

To understand the early development of modern specialism in a limited region such as Illinois, it is necessary to refer to earlier times and to earlier countries for an historical approach to the subject. Such an approach will furnish dependable guiding principles for us to follow.

The beginnings of specialism in medicine among civilized peoples arose far back in ancient times. Those who first limited their work to special organs, like the eye (Code of Hammurabi) or the ear, seem to have been, in principle at least, the initiators. The recognition of surgical practice as a field to some degree different from general medicine, is also ancient. Both were to a variable extent differentiated long before the days of Greece or even of Egypt. Ethnology bears this out. The discovery of surgical instruments in the modern excavations of ancient civilizations also indicates that surgery is very old, perhaps the oldest of all medical procedures. This is on the assumption that childbirth was considered until relatively recent times a physiological process, comparable in some respects to other normal evacuation processes of the body. It was therefore natural that medicine and surgery (even the Barber Surgery) together with some of the organ specialties, having originated so long ago, continued down through the centuries, side by side as it were, until the advent of the scientific specialism of today.

The progress of medicine has been achieved by discoveries made at intervals, here and there, in the various countries of the world. Depending on the nature of these discoveries, a period of time ensues before the concrete discovery becomes available for practical purposes. This "lag"* period depends upon various factors, the two chief ones being (1) transmission of information (usually by printing) and (2) training of competent persons to carry on the technological procedures. The length of this period of time varies from a relatively short one to many years. It is during these years that technics are perfected and as a rule new and valuable observations are made leading to further advancement. As Bacon has written "This Art of Discovery hath, two parts, for either the Indication is made from Experiments to Experiments; or from Experiments to Axioms, which may likewise design new Experiments." (Advancement of Learning).

In a relatively primitive country such as was Illinois during these years (1850-1900), one could hardly anticipate great discoveries of a fundamental nature. And, as a matter of fact, no major discoveries have been recorded in Illinois during this period. Our interest therefore will lie in noting the early application of principles together with the technical improvements that naturally occur during these subsequent periods of extension and dispension.

To illustrate, in Volume I, page 223, Zeuch tells of the first anaesthetic given to a patient in Illinois. In 1846 in the amphitheater of Rush Medical College, Chicago, Dr. Charles H. Quinlan gave ether in a case of an amputation of a finger. This date was only four years after Dr. Long first used ether in Georgia for the removal of a tumor two years after Dr. Jackson and Dr. Morton used it in filling a tooth (1844) and one year *before* Dr. Simpson (1847) used chloroform in childbirth cases in Edinburgh, Scotland.

One will admit that for that day the transmission of information as indicated above was surely a remarkable accomplishment. Dr. Quinlan (and there were many like him) must have been on the alert for the latest and best in medicine. The discovery of practical anaethesia and its relatively rapid application were most timely in view of its usefulness during the Civil War, which was to follow so shortly thereafter; as

*"Lag" has been defined as that unpredictable period between the discovery and the pay-off.

well as for the discoveries in antiseptic surgery during the half century under consideration.

Again, just at the close of the last century in 1895, Roentgen discovered the x-ray. In a surprisingly brief time the news of this discovery encircled the world. In Illinois, within the year (1895) Dr. Michael Hewitt of Galesburg was able to obtain an excellent skiagraph of Dr. Thomas Shastid's hand. Dr. Shastid thinks it was the first x-ray picture taken in the Western Hemisphere (My Second Life. Thomas H. Shastid. 1944, p. 32. George Wahr, publisher. Ann Arbor, Michigan).

For the examination of bones and other dense tissues or parts of the body, progress was rapid. For many other purposes especially therapy and treatment of disease, the advance, though somewhat more retarded, was nevertheless progressive and has continued from time to time to excite the world with new observations and techniques.

Finally one should not fail to mention the fact that the nature and incidence of diseases in a given region are certain to have an influence on the rapidity and the trends of medical specialization. Where fevers occur, there febrifuges will be used and studied. In a pioneer period, wounds, fractures and local infections will require surgery. In Illinois specifically, the trachoma area occurring in the southern part of the state has required the services of eye doctors for many years.

Such experiences surely will encourage a few doctors to become more or less expert in some branch of medicine; in other words they become specialists to a greater or less degree during the natural course of events.

Many more examples of the rapid dissemination of medical information together with its application will appear in the several special sections or chapters in this Volume. Progressive and alert doctors, hospitals, clinics, medical colleges and medical literature all have assisted in the dissemination of this special information which has resulted both in the relief of incalculable suffering, and in the prolongation of innumerable lives.

Thus did medical specialism grow and evolve in Illinois.

SCIENTIFIC EXHIBITS FOR 1952 ANNUAL MEETING

The 1952 Annual Meeting of the Illinois State Medical Society will be held at the Hotel Sherman, Chicago, May 13, 14, 15. As has been the custom in recent years, an outstanding feature of this annual meeting will be the Scientific Exhibit. Applications for space should be made immediately to the Chairman of the Committee on Scientific Exhibits; Coye C. Mason, M.D., 551 Grant Place, Chicago, Illinois.

Complete information relative to the two types of exhibits which will be used in this fine display, and all pertinent data will be given by Dr. Mason. He will likewise send the necessary application form to those desiring to participate in the scientific exhibit.

Although more exhibit space will be available than was used for the 1951 Annual Meeting, it is quite obvious that all of it will be assigned in the near future. It is necessary, therefore, that applications be received and returned to Dr. Mason at the earliest possible moment.

THE FAMILY DOCTOR

Until the last few years the family doctor has been a rapidly fading figure in American Medicine. The public, in the main through overemphasis upon the scientific achievements of our own group, has been weaned away from the concept of the doctor as an understanding family friend.

The 'man in white grappling with death" has become the epitome of the physician in the eyes of many of the public. The first result has been that the family doctor has lost favor in the eyes of his own clientele. A secondary result is that men have turned away from general practice.

Now we find that the most ill-served area is that area in which no family doctor is present.

In the five years immediately past vastly increasing emphasis has been placed on raising the status of the general practitioner and on bringing a family doctor to the small towns which so desperately need one.

It should be a part of every medical society's job to bring forcefully to the attention of the public the advantages of having a family doctor. This is not to imply in any way that the various specialty groups should be criticised or limited.

The family doctor is a man who is well able

to see after the majority of medical needs of any family group. He occupies the enviable position of having a personal knowledge of this family group and every member of it.

In this position he is an excellent judge of the relative weight of the psychic and somatic factors in any complaint. A complete knowledge of the past history of an individual, such as only he can possess, in invaluable in diagnosing and treating most disease.

The conscientious family doctor will request consultation when he feels that the best interest of the patient demands it. And he will "stand in" with the qualified specialist of his selection at any major procedure done upon his patient.

This liaison between family doctor and specialist is of incalculable benefit to the patient. It should be strongly fostered by both medical groups and the public. Far too often the opposite obtains.

The family doctor can afford to render general medical care for less money than can a specialist or a specialized group. This is not to say that he can do the more complicated procedures of diagnosis and treatment any cheaper. But the majority of medical calls are for problems of a simple nature.

One of the current objections to American medicine is its high cost. While medical costs have not risen in accord with other costs, the objection has some basis in fact. The costs of individual procedures or of office calls have not risen greatly but the use of these procedures has increased.

In many instances the family doctor is quite capable of handling all aspects of an illness but, if the same illness were to be investigated in a medical center, at least two and probably more physicians would see the patient, each making a charge.

These facts must be made known to the general public and to young men who are entering medicine.

The picture of the family doctor as an unkempt old man who knows very little except how to appear benign is wrong. There were many and there are still a few such men. But, by and large, the family doctor of today is a well-trained medical scientist. And, what is even more important, he is an expert at the art of medicine.

This concept of the art of medicine is a subject that everybody talks about and nobody ever does anything about. Many medical students and not a few older doctors know much about disease and little about people. Such a man may fail in practice while the physician who knows much about people and little about disease may succeed. Surely, this in itself is an indication of the importance of human relationships in medical practice.

By the very nature of his work the family doctor has a better chance to ply this art of medicine. His knowledge of any individual under his care is likely to be much more nearly complete than that of his specialized colleagues.

The patient's disease and the Patient's problem are not always one and the same. It might be said that the disease is only one facet of the many-sided human problem which is presented to the physician. To repeat: the family doctor is the man in the best position to recognize and deal with this.

The small town family doctor of today can reasonably expect to have a well equipped small office and nearby hospital facilities. He can expect that, as his field of technical knowledge increases, he may bear more and more of the load of scientific medicine.

And, most important, as his knowledge of people increases he may hope to become the confidant of his community and an essential to it. His understanding and kindness — or, more scientifically, his psychosomatic ability — will be of prime importance to his community.

There is little of glory and much of hard work in being a family doctor. But there is also much of satisfaction and not a little of pride in assuming the position of family doctor to a group of people.

There are many trials in the practice of rural medicine. A large percent of these are put upon the family doctor by members of the profession. He may be looked down upon, his intelligence questioned, and he is many times treated cavalierly.

However, a definite trend exists to bring the family doctor to his rightful place in medicine. More and more recognition is being given to the man in general practice.

Training programs are now being aranged to give medical students more and more active

training in general practice. Existing programs are being enlarged.

Emphasis is swinging toward the man who does the majority of American medical practice. Such a trend promises benefit to patients and to medical practice as a whole.

—Paul Williamson, M.D.
University of Tennessee
Memphis General Practice Clinic

WALTER D. STEVENSON, 1883-1951

Walter D. Stevenson, who was President of the Illinois State Medical Society, 1949-1950, died suddenly in his home at Quincy, early Friday morning, October 26. An outstanding ophthalmologist for many years, Doctor Stevenson has been very active in the affairs of his county society and of the Illinois State Medical Society.

For a number of years he served as Secretary of the Adams County Medical Society, and in 1942 was elected Councilor of the Sixth Councilor District, serving in the State Society Council until his election as President Elect of the Illinois State Medical Society at the 1948 annual meeting. He was chairman of the Council for two years, 1946-48. At the 1949 Annual Meeting he was inducted into the office of President, and he gave a year of untiring service in this capacity.

Traveling all over the State of Illinois, he appeared before many county medical societies, and before many lay groups. He rarely refused an invitation to discuss the many current medical care problems which have been increasing in recent years. Doctor Stevenson was a member of many professional organizations, and an active participant in the many deliberations of these groups.

He was born in Baltimore, Maryland, October 28, 1883, receiving his education at St. Martin's Academy, and at Loyola University, Baltimore. He received his M. D. degree from the University of Maryland in 1906. He remained in Baltimore as an instructor in his medical school until 1909. Early in his professional career he decided to specialize in Ophthalmology, taking advantage of every opportunity to prepare himself for this specialty in medicine.

He became Oculist-in-chief at St. Mary's Hospital, Quincy, in 1914, which position he retained until his death. During World War I, he was a Captain in the Medical Corps, and was Chief Ophthalmologist for A. E. F. Base Hospital 54.

Doctor Stevenson was married to Alice Dorothy Greenlaw, October 8, 1910. He is survived by his widow, a son, Walter Stevenson Jr., who was associated in practice with his father, and two daughters, Mrs. Thomas Russell of Houston, Texas; the former Dorothy Stevenson, and Mrs. Hugh Black of Andrews, Texas; the former Jeanne Stevenson.

The 10,000 members of the Illinois State Medical Society extend their sympathy to Mrs. Stevenson and her family, for the loss of a husband and father who has served his nation, local community, and this Society faithfully over a long period of time.

MEDICAL ECONOMICS

The Medical Economics Committee. Chauncey C. Maher, Chairman, John R. Wolff, Co-Chairman, Edwin F. Hirsch, Carroll Birch, Hubert L. Allen, Frederick W. Slobe, Edward W. Cannady, Ford K. Hick, W. Robert Malony, Roland R. Cross, Alfred P. Bay, Frederic T. Jung.

The Supply of Public Health Physicians

The problem of finding and keeping a sufficient supply of competent physicians in the field of Preventive Medicine and Public Health is one which needs to be faced and effectively solved by our profession.

It is generally agreed that many prospective public health men have chosen not to enter the field for these and other reasons: salaries have been low; medical schools have not made public health and preventive medicine, in a career sense, as attractive as is the care of patients or other branches of clinical medicine; employment by local, state or national government has not always yielded the degree of satisfaction from visible individual accomplishment which the physician has usually felt he receives from private practice. Often those with a natural flair for administrative-preventive-public health medicine have become engrossed in a busy private practice before such opportunities have been brought to their attention.

Illinois has need currently for a number of career men in the public health field in spite of the fact that it is one of the more fortunate states in respect to the number and professional quality of its public health physicians. There are open at present in Illinois at least one urban, four county, and four state positions for career men in the public health field, with salaries varying from approximately $6,000 to $9,500.

The physician who plans a career in public health — ideally has carried on successful private practice for one or more years; obtained a Master's Degree in Public Health during his first three years in the field; developed and maintained effective public relations as well as excellent human relations with the health department staff, individual physicians, and others. He should possess at least normal tact, patience and energy; secure and maintain the professional respect of physicians and others; be willing to work as many hours as necessary to accomplish the tasks at hand; be conversant with and adapt himself to sound administrative practices. If untrained and inexperienced, he should be young enough to make it reasonable for public money

to be used to assist with his specialized education; he should be interested in becoming certified by the American Board of Preventive Medicine and Public Health. The volume of work to be done in the normal public health department makes it important that the health officer be in excellent physical condition with stamina comparable to that of the private practitioner.

A physician desirous of entering the field can do so in a number of ways. He may select the career in medical school, thus aiming his academic activities toward proficiency in public health. He may select the specialty during internship or after a period of private practice. The Illinois Department of Public Health has contributed to the general knowledge of practical public health among medical students by arranging with cooperating full-time local health departments for three-month periods of field service for interested students. A few of these students will enter public health careers direct from internship or after varying periods of private practice. The Medical School of the University of Illinois is gradually building a School of Public Health, which will eventually provide facilities for graduate study necessary in specialization. The American Board of Preventive Medicine and Public Health provides for certification and is developing a list of approved Public Health residencies which will be published within a few months.

Public health physicians face their most difficult problems in areas where local physicians, individually or as a society, fail to support the public health man and the program of the health department. Other professions tend to line up fairly solidly behind their professional representatives in the public health departments. Medicine does this also in most instances, but the exceptions occur frequently enough that the public health physician in some localities finds his task a discouraging one. With cooperative relationships established, the position of the public health physician as health officer is marked by substantial satisfactions based on improved community health — which is also the result of effective medical service, sought earlier than normal by many as a sequel to cooperative public health activities.

The pressures of the National Emergency in no way alter the need for more public health physicians. In fact, the Emergency will almost assuredly underscore this need and its urgency. In peace, emergency, or war, the opportunities and need for the career physician in public health will increase. There is added satisfaction in the fact that salaries are aproaching reasonable levels.

Physicians who may be interested in learning more about the opportunities in public health in Illinois or in other parts of the country may obtain this information through Dr. Roland R. Cross, Director, Illinois Department of Public Health, Springfield.

THE CARE OF INDIVIDUALS, NOT HOSPITALS

To best fulfill this function, I would like to suggest that organized medicine (in Maine) working through each hospital medical staff and each county medical society, accept responsibility to acquaint its membership with costs of hospital services and of explaining hospital charges to patients. Obviously the facts and figures and the general pattern of hospital policy must be gotten through the administrator and the governing boards of these hospitals with whom there must be a close working relationship and mutual understanding of what is to be done and how to do it. I think it is only fair to say that the support and active assistance of the medical profession in this matter is of such vital importance to the entire community that if the administrator or the governing board of your hospital does not request the assistance of the medical staff, the staff should suggest offering its services to them. *Excerpt: Answering Hospital Cost Criticisms, Donald M. Rosenberger, Portland, Me., J. Me. M. A., Aug. 1951.*

CORRESPONDENCE

MEDICAL OFFICERS FOR U. S. AIR FORCE

Men and women practitioners in the medical profession and specialized vocations allied to medicine and surgery now have an opportunity to step directly from civil life into the ranks of commissioned officers in the United States Air Force, according to an announcement released by Lt. Colonel Charles D. Morat, Jr., Director of Personnel Procurement at headquarters of the First Air Force, Mitchel Air Force Base, N.Y.

The classifications from which officers are sought by the Air Force are: doctors of medicine, medical research and allied science specialists, physical and occupational therapists, medical supply and administration specialists, environmental and industrial hygiene engineering specialists, dietitians and nurses.

In each category, a definite set of educational and qualifying experience standards are required, with increasing professional attainment minima for progressively higher ranks. In all cases, degrees must have been granted by colleges and institutions acceptable to the surgeon general of the U.S. Air Force. For women, an age limit of 45 years has been established. While the commissions offered under this program are in the U.S. Air Reserve, applicants must be ready to be called to active duty at the discretion of the Air Force.

Because each classification has its own set of requirements for each grade from second lieutenant to the higher ranks, the First Air Force has set up clerical facilities for prompt servicing of all inquiries regarding these commissions. Men and women who are interested in any of the specified professions are invited to write to the Air Surgeon, Headquarters First Air Force, Mitchel Air Force Base, New York.

REIS IS SECRETARY

The National Federation of Obstetric-Gynecologic Societies has reconstituted itself as The American Academy of Obstetrics and Gynecology. This action was taken at the Federation meeting held on June 13, 1951 in Atlantic City in response to the long-felt need for a national society for obstetricians and gynecologists based on individual and personal membership.

The following officers were elected at this meeting: President — Woodard D. Beacham, New Orleans, Louisiana; President-Elect — Carl P. Huber, Indianapolis, Indiana; Vice-President — Louis H. Douglass, Baltimore, Maryland; Treasurer — Herbert E. Schmitz, Chicago, Illinois; Secretary — Ralph A. Reis, Chicago, Illinois; Executive Board — Robert G. Craig, San Francisco, California; John L. Parks, Washington, D. C.; Charles D. Kimball, Seattle, Washington; Samuel B. Kirkwood, Winchester, Mass. Philip F. Williams, Philadelphia, Pennsylvania.

The Academy was incorporated on August 4, 1951 as a non-profit corporation under the laws of the State of Illinois. Its objects are listed in the Constitution and By-Laws which were adopted at a meeting held at Hot Springs, Virginia, on September 5, 1951. They include "fostering and stimulating interest in obstetrics and gynecology and all aspects of the work for the welfare of women which properly come within the scope of obstetrics and gynecology."

The first business meeting of the Academy will be held at the time of the meeting of the American Congress on Obstetrics and Gynecology in Cincinnati, March 31 through April 4, 1952. The First Annual Clinical Meeting will be held in Chicago, Illinois, during the winter of 1952-53.

Applications for Fellowship may be obtained from the Secretary's office, 116 South Michigan Avenue, Chicago 3, Illinois.

INFERTILITY

The American Society for the Study of Sterility announces the opening of the 1952 contest for the most outstanding contribution to the subject of infertility and sterility. The winner will receive a cash award of one thousand dollars, and the essay will appear on the program of the 1952 meeting of the Society. Essays submitted in this competition must be received not later than March 1, 1952. For full particulars concerning requirements of this competition, address The American Society for the Study of Sterility, 20 Magnolia Terrace, Springfield, Massachusetts.

CLINICS FOR CRIPPLED CHILDREN FOR DECEMBER

Doctor Herbert R. Kobes, director of the University of Illinois Division of Services for Crippled Children, has released the December schedule of clinics for physically handicapped children. The Division will conduct 12 general clinics providing diagnostic orthopedic, pediatric, speech and hearing examinations along with medical social and nursing services. There will be 4 special clinics for children with rheumatic fever and 2 for cerebral palsied children.

Clinics are held by the Division in cooperation with local medical and health organizations and groups, hospitals, civic and fraternal clubs, and other interested groups. From private physicians, who are certified Board members, are selected the clinicians. Any private physician may refer or bring to a convenient clinic any child or children for whom he may want examination or may want to receive consultative services:

The December clinics are:

December 5 — Joliet, Will Co. TB Sanitarium
December 5 — Alton, Alton Memorial Hospital
December 5 — Rock Island (Cerebral Palsy), St. Anthony's Hospital
December 6 — Macomb, St. Francis Hospital
December 11 — Peoria, St. Francis Hospital
December 11 — Christian Welfare, East St. Louis Clinic
December 12 — Hinsdale, Hinsdale Sanitarium
December 12 — Elgin, Sherman Hospital
December 13 — Springfield, St. John's Hospital
December 13 — Elmhurst (Rheumatic Fever), Memorial Hospital of DuPage County
December 14 — Chicago Heights (Rheumatic Fever), St. James Hospital
December 18 — Peoria, St. Francis Hospital
December 18 — Effingham, (Rheumatic Fever), Douglas Township Building
December 19 — Springfield (Cerebral Palsy), Memorial Hospital
December 19 — Chicago Heights, St. James Hospital
December 20 — Normal, Brokaw Hospital
December 20 — Rockford, St. Anthony's Hospital
December 21 — Chicago Heights (Rheumatic Fever), St. James Hospital

RESIDENCIES IN ANESTHESIA

The Cook County Hospital wishes to announce that there have been two residencies established in the Department of Anesthesia effffective January 1, 1952. For further information communicate with the Medical Director of Cook County Hospital.

ORIGINAL ARTICLES

Diagnosis and Treatment of Meningitis

Archibald L. Hoyne, M.D.
Chicago

One might conclude that meningeal involvement should be recognized readily at any age and an exact diagnosis established by an examination of the cerebrospinal fluid. However it is well to remember that infants without neurological signs may have an extensive meningitis. Even over the anterior fontanelle there may be neither bulging nor tenseness. Consequently it is unlikely that a lumbar puncture will be made if meningitis is not suspected. But there may be other evidence to suggest the nature of the illness.

Among all varieties of meningitis, the meningococcic form is regarded generally as the most common. Therefore it should receive first consideration and a diagnosis often can be made on clinical signs before resort to the microscope. Nevertheless such a decision should be confirmed by laboratory findings. The first procedure is a careful inspection of the skin and also conjunctivae for the presence of petechiae which may be seen in 20 to 60% of the cases. The figures vary for different years. However, petechiae very seldom occur with any other kind of meningitis. If petechiae are found one of them can be punctured, a smear made and gram negative diplococci are often detected. In the event this examination is positive a lumbar puncture is not imperative. Nevertheless a blood culture should be secured and is generally positive for meningococci when petechiae exist. If there are no petechiae a spinal tap is a necessity for determining an accurate diagnosis. The cerebrospinal fluid should be cloudy and will probably have several thousand cells per cubic millimeter with a great preponderance of polymorphonuclears. A gram negative stain will generally disclose both extra and intra cellular organisms. A culture of the spinal fluid should also be obtained.

It may be well to mention that meningococcic infections when characterized by petechiae can be confused with other diseases in which skin lesions occur. Some of the conditions which one may be called upon to differentiate are: purpura, subacute bacterial endocarditis, chickenpox,

Presented before the General Assembly of the Illinois State Medical Society, Annual Meeting, May 24, 1951, Chicago.

Rocky Mountain spotted fever, smallpox, typhoid fever and drug eruptions. Arthritis occasionally is observed before there is evidence of meningeal irritation and then it may be thought that rheumatic fever is responsible for the illness. Sore throat also may be an early symptom.

Meningococcaemia may occur without meningitis and in some of these cases with extensive involvement of the skin there may be massive hemorrhages in the adrenals — the Waterhouse-Friderichsen syndrome.

Meningococcic infection may be witnessed at any time from early infancy to late in life. Our oldest patient at the County Contagious Hospital was 81 years.

Some time ago when the incidence of the pneumonias was much higher than at present it seemed that pneumococci as etiologic agents were often close contenders for first place[2] among the meningididies. However pneumococcic meningitis is by no means rare now. It may occur at all ages. An attack of pneumonia is not as frequent a precursor of the disease as one might expect. But a chronic otitis media is often found to be the focus of infection — especially in adults. This fact may offer a lead in considering the etiology of meningitis. Otitis media has been notably infrequent in our meningococcic patients and has seldom occurred as a complication.

For a number of years we have been impressed by the fact that so many patients with pneumococcic meningitis have a history of skull fracture on some remote occasion. Moreover, second attacks may occur and we have reported[3] an instance in which a man had four distinct repetitions. All four episodes took place within a period of five years.

There is nothing characteristic about the onset of pneumococcic meningitis to distinguish it from other varieties. Therefore a lumbar puncture must be made and the spinal fluid characteristics will be similar to those in the case of meningococcic meningitis except the organisms are gram positive. A culture should provide further confirmation of the diagnosis. A low cell count — less than a thousand per cubic millimeter — and large numbers of organisms usually foretell a bad prognosis. A reverse situation is much more favorable. A blood culture may also disclose the presence of pnemococci.

Staphylococcic[4] and also streptococcic meningitis are encountered far less often than the forms previously named. Although staphylococci may gain entry to the body by various routes, in our experience it has seemed that meningitis due to these organisms is most frequently associated with infections about the upper lip, or nasal sinuses. On the other hand ear infections in children particularly may afford the port of entry for streptococci. But the general decline[5] of all streptococcic infections is undoubtedly an important contributing factor in the diminished incidence of otitis media and lesser frequency of streptococcic meningitis. In order to establish an accurate diagnosis staphylococci or streptococci should be obtained by culture of the cerebrospinal fluid. In either instance a blood culture may also be positive.

Although the streptococcus viridans[6] is a rare invader of the meninges this organism in recent years seems to have increased its percentage as an etiologic factor among the streptococci.

Thus far an effort has been made to avoid enumerating all the common symptoms and signs of meningitis, which are so well known. But allusion has been made to the fact that an infant may have no neurologic evidence to suggest the existence of meningitis. Fever of unknown origin and anorexia may be the chief symptoms. With an undisclosed diagnosis it is well to keep in mind that the physical examination is not complete without a lumbar puncture. Then an examination of the cerebrospinal fluid may solve what seemed to be a perplexing problem.

Even beyond the age of infancy meningitis may occur when stiffness of the neck is not an early symptom and the kernig sign at the same time be absent. Reference is made here to Hemophilus influenzae infections. This organism, as we know, is a bacillus and is not to be confused with epidemic influenza a virus disease to which it is presumed to bear no relationship.

It is a matter of diagnostic significance that influenzal meningitis is very rarely observed in adults and that about 90% of all patients are under 5 years of age. The possibility of such an infection should always be considered in any meningitis patient who is less than 3 years old. This disease is sometimes initiated by a most

unusual feature. With an exceptionally abrupt onset and high fever of 104 to 106 the child develops an edema of the glottis without clinical signs of meningitis. In fact laryngeal diphtheria may be suspected or a foreign body in the air passages. Appropriate action must be taken without delay or there is a fatal termination as a result of asphyxiation. Moreover the inciting cause of death may not be considered. Furthermore in the average case of influenzal meningitis which has no alarming symptoms of impending suffocation an accurate diagnosis is not always made promptly, even though a lumbar puncture is performed. This is because early in the illness the cerebrospinal fluid is occasionally clear, the cell count within the hundreds and more important still lymphocytes predominate and no organisms are found. As a consequence of such circumstances and because of stiffness of the neck a diagnosis of nonparalytic poliomyelitis may seem probable. But the continuance of a high temperature and increased nucal rigidity calls for one or more additional spinal taps. Eventually the character of the cells in the spinal fluid will have changed from lymphocytes to polymorphonuclears and the influenzal bacillus probably will be discovered. In the meantime a blood culture may disclose the organism. If the patient is rational extreme irritability is often noticeable and seems to be a characteristic of this kind of meningitis.

In some years past it has been said that the tubercule bacillus accounted for more cases of meningitis than any other organism. Adults as well as infants and children contribute to the list. In many instances the clinical picture is strongly suggestive of the existing condition. It is the only form of meningitis in which an inequality of pupils is frequently observed. A facial palsy is also fairly common and the patient often stuporous. The spinal fluid is generally clear in appearance, the cell count is likely to range in the hundreds and nearly all are lymphocytes. The sugar content is almost certain to be low — perhaps less than 30 milligrams per cent. Nevertheless no organism may be disclosed in a smear even though the Levinson test is positive. While awaiting the results of the spinal fluid culture other diagnostic procedures should be conducted. A Mantoux test in the case of infants or young children and perhaps stomach washings will be helpful. An x-ray of the chest should always be made and a guinea pig inoculation with spinal fluid may afford the final proof desired. Although a convulsion may usher in any form of meningitis in infancy and childhood it is usually only the tuberculous that is apt to have a recurrence of convulsions after the disease is established. A prompt diagnosis is not always a simple matter. Poliomyelitis, various forms of encephalitis, brain abscess or brain tumor may deserve consideration. Rarely a diagnosis of leuetic meningitis is determined when a tuberculosis infection seemed probable and sometimes trichinosis or tetanus is mistaken for bacterial meningitis.

B. coli especially in early infancy and Fridlanders bacillus are organisms which are detected very seldom as etiologic factors in meningitis. Of course there are also other bacteria including gonococci which infrequently invade the meninges.

Treatment of meningitis no longer need be a complicated or laborious undertaking if modern methods[7] are adopted. Yet the ancient days of intrathecal treatment have been fading very slowly beyond the horizon of persistency, for many still cling to the needle for intra-spinal therapy. But fear in regard to the dangers of intracranial pressure has undoubtedly lessened greatly. Drainage is not necessary; nor are frequent lumbar punctures to permit examination of cerebrospinal fluid. We know that a low sugar in the spinal fluid may be expected to rise and a high cell count to decline as the patient improves. Is it not possible to tell by a physical examination including the appearance of the patient whether his progress is favorable or otherwise?

Even before a bacteriologic diagnosis has been firmly established it is justifiable to prescribe a sulfonamide. This action can be taken on the ground that a sulfa drug possesses as a rule some degree of effectivenes against any form of bacterial meningitis. Sulfadiazine is usually favored but not withstanding that sulfathiazole[8] is unpopular this latter drug, for the treatment of meningococcic infections, produces results equally as good or better. In addition haematura occurs more than three times as often with sulfadiazine. With the same dosages as for sulfadia-

zine blood levels for sulfathiazole are extremely low but the response to therapy is excellent. Sulfamerazine also gives satisfactory results. However it is possible that gantricin[9] because of its high solubility and perhaps the least likely of all the sulfonamides to produce cristyluria may prove to be best. Under any circumstances an adequate fluid intake of from 2000 to 3000 c.c. a day depending on the age of the patient is usually sufficient to prevent haematuria without the administration of an alkalae. A combination of sulfonamides may lessen the chances of kidney irritation.

Sulfonamide dosage is generally calculated on the basis of 1.5 to 2 grains per pound of body weight for each 24 hours. One half the total is then given for the initial treatment and the remainder divided into five equal parts, one of which is administered every four hours. Practically about 5 grams may be prescribed for the average adult for the first dose which is followed by 1 gram every four hours. For a child we usually give an initial dose of from 2 to 3 grams and then from 0.5 to 1 gram every four hours. For the initial dose it usually seems advisable to give a 5% solution of the sodium salt of the drug in 5% dextrose intravenously. This route may be continued using the drip method if the patient remains unconscious. Or the 24 hour dose may be divided in two equal parts and subcutaneous injections made twice daily. For the latter plan normal saline is sometimes preferable to the 5 per cent solution of dextrose. Blood levels for the drug should be obtained two to three times weekly, a daily check on the urine and a white blood count at least weekly.

For uncomplicated meningococcic infections penicillin does not seem to be an effective requirement although it is said that with a sulfonamide there is a synergistic action. Nevertheless it is well to know that massive doses of penicillin alone may be capable of promoting recovery. Aureomycin appears to be an efficient adjunct in some cases when progress has not been satisfactory. From 8 to 10 days sulfonamide therapy is usually sufficient for meningococcic infections.

Recently we have had some excellent results with terramycin for the treatment of meningococcic meningitis. The patients have ranged from 1 to 36 years. When this antibiotic is administered orally there seem to be no unpleasant reactions. For intravenous use there is some danger of thrombosis which occurred in the first two patients without serious affects. In accord with our usual plan the initial dose has been given by vein, generally 500 mg. To lessen the chance of thrombosis we have increased the dilution of terramycin, and now use 1 mg to 1 c.c. of physiological salt solution or preferably 5% dextrose. Following the intravenous administration, 250 mg were given orally every 6 hours for 6-7 days. There was no other medication. Insofar as I know these are the first meningitis patients to be treated with terramycin.

Penicillin is the outstanding remedy for pneumococcic meningitis. It should be given in massive doses. From 300 000 to 500 000 units may be prescribed every three hours if necessary. The initial dose should be injected intravenously and this same route may be followed until a good response is apparent. However satisfactory results can be obtained when injections are made in the muscle. It is advisable also to follow the line of therapy described for sulfonamide treatment of meningococci infections.

For either staphylococcic or streptococcic meningitis the plan of treatment is the same as for pneumococcic patients.

Hemophilus influenzal infections present special problems. Ordinarily there is the early age of the patient. Or as previously mentioned the onset is sometimes ushered in with edema of the glottis which calls for a prompt tracheotomy to preserve life. Selection of appropriate remedies is also of the utmost importance. In addition to sulfadiazine, streptomycin, dihydrostreptomycin, aureomycin or chloromycetin are available. It is possible that all of the last four are equally effective and the dosage for each will usually be the same. If streptomycin or dihydrostreptomycin is selected from 0.8 to 1 gram daily in divided doses at six hour intervals for a period of two days will often suffice. But even though the cerebrospinal fluid is sterile after 48 hours treatment with streptomycin the sulfadiazine should be continued for at least two weeks. When streptomycin or dihydrostreptomycin therapy is maintained for a week or more there is a much greater possibility of deafness occurring. Streptomycin or dihydrostreptomycin should be administered only by

the intramuscular route — never intravenously. On the other hand aureomycin can be injected in the vein, seems to have no untoward affect on the nerves of special sense and response to treatmet is equally satisfactory. However aureomycin sometimes causes nausea or diarrhea and rarely thrombosis.

It is a well known fact that streptomycin or dihydrostreptomycin are the chief agents available for combating tuberculous infections. For tuberculous meningitis it has been our custom to administer intramuscularly from one to two grams daily, injecting either gram 0.5 twice each 24 hours or double that amount depending on condition and age of the patient. We have continued such therapy for as long as 7 months without observing marked impairment of hearing. Some patients remain comatose or stuperous for weeks. During that time intravenous glucose 5% to 10% daily and finally feedings by stomach tube must be adopted. Good nursing care is also very important. Paraaminosalicylic acid (PAS) has been recommended quite highly but we have used it very little. It is likely to cause nausea and disturb digestion.

Sedatives are not often required for meningitis and morphine should not be prescribed. But restraints should always be applied until the patient is well on the road to recover.

CONCLUSION

Examination of cerebrospinal fluid is not a necessity for the diagnosis of every case of meningitis. The etiologic factor may be determined by a smear if petachiae are present or a blood culture may reveal the causative organism. The sole purpose of a lumbar puncture should be for diagnosis when other means are not adequate.

All therapeutic measures should be adopted for the welfare of the patient. Intrathecal treatment[10] is contraindicated for every form of meningitis. After a bacteriologic diagnosis has been established the cerebrospinal fluid generally requires no further thought.

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PENICILLIN AND ECTOPIC PREGNANCY

Among patients observed in private practice the incidence of ectopic pregnancy trebled after the advent of penicillin therapy in the treatment of chronic pelvic inflammatory disease. In seven of eleven cases of ectopic pregnancy in a two-year period, the patients had had penicillin therapy previously. A probable explanation is that in cases in which the fallopian tube is closed by inflammation, it reopens following penicillin therapy but, because of residual damage, the ovum may not descend to the uterine cavity and is impregnated in the tube. *Excerpt: Penicillin as an Etiologic Factor in Ectopic Pregnancy, Leon Krohn, M.D., Los Angeles, Calif. M., Sept.* 1951.

Acute Appendicitis

Philip Thorek, M.D.
Chicago

The statement "only an appendix" is indeed a dangerous one. Since this condition still accounts for over 5,000 deaths per year in this country alone, a revival of interest and a renewal of methods of attack surely seem warranted. In studying acute appendicitis for the past 15 years, both at Cook County Hospital and in private practice, certain specific ideas concerning the diagnosis and treatment have been formulated; these are presented.

In 1886, Reginald Heber Fitz of Harvard gave appendicitis its name. His description is considered one of the classics of medical literature. It is odd, however, that the condition was not discovered or described in the literature until such a late date. Anatomically the appendix was described in the sixteenth century; pathologically it was recognized in the eighteenth century; clinically it belongs to the nineteenth century; and therapeutically it is the challenge of the twentieth century.

PATHOLOGIC PHYSIOLOGY

In discussing inflammation and infection the late Richard Jaffe stated: "There is no infection without stasis." Thus, if a gallbladder can empty itself there will be no cholecystitis, if a sinus drains itself there will be no sinusitis, and if an appendix evacuates itself there will be no appendicitis.

Micro-organisms always are present, but as long as they are kept in motion they cannot increase in number and do not gain a foothold in the tissues; thus no inflammatory response results. Fecaliths, kinks, bands, spasms, mucosal folds, or foreign bodies might act as the obstructing factor and permit the bacteria to multiply. How far this inflammatory response will progress cannot be foretold. It depends upon the completeness of the obstruction, the virulence of the micro-organism and the resistance of the host.

From the Departments of Surgery of the University of Illinois, Cook County Graduate School of Medicine, American and Alexian Brothers' and Cook County Hospitals.

HISTORY AND SYMPTOMS

That certain types of people are predisposed to certain types of diseases cannot be denied. We know that the characteristic type for acute appendicitis is the young adult male. It is a disease which usually affects those in their teens and the second and third decades. There is no dogma in medicine, and although this disease may occur at any age, from the uterus to the grave, it becomes infrequent after the age of forty.

Any diffuse epigastric distress which localizes to the right lower quadrant within the first 24 to 48 hours is acute appendicitis until proved otherwise. Unfortunately, however, the patient does not use this terminology, but relates the same story in a different way. His terms for diffuse epigastric distress are: "belly-ache", "spoiled stomach", "cramps", or "gas". His usual remark is: "Something I ate gave a belly-ache." He oftimes heeds the advice of a well meaning friend who suggests a cathartic, and then some 24 hours later becomes concerned about a "sore spot" in the lower right side of his abdomen. It is at this time that he will usually consult the doctor.

The "two question test" suggests the diagnosis in well over 70 per cent of cases of acute appendicitis. Question number one: "Where was your pain when it started?" To this the patient usually points to his entire abdomen. Question number two: "Where does it hurt you now?" To this interrogation the patient usually points to the region of McBurney's point. This is one of the simplest, most efficacious and rapid methods of diagnosing a case of acute appendicitis.

Unfortunately nausea and vomiting have been taught as being frequent symptoms. This is not true. The majority of patients neither vomit nor complain of nausea; almost all however have anorexia. Anorexia, nausea and vomiting are really three degrees of one symptom, being dependent upon the degree of distention in the appendix. Vomiting is associated with

a markedly distended appendix, nausea with a moderately distended appendix, and since almost all acute appendices are associated with microscopic distention these patients should complain of anorexia. It is indeed a rarity to find a patient suffering with acute appendicitis stating that he is hungry.

Constipation is the rule, and diarrhea, the exception. Diarrhea, however, frequently is found in children suffering with acute appendicitis; if it is present in adults it suggests a pelvic appendix with an associated periproctitis.

PHYSICAL EXAMINATION

Under this heading one routinely includes temperature, pulse and respirations. A high initial fever strongly suggests some other condition but not acute appendicitis. The fever is usually of low grade in early appendicitis but as the disease progresses, especially after the first 24 to 48 hours, the fever begins to rise as the peritoneal cavity becomes soiled. One, therefore, should not wait for fever to develop since it indicates a complication rather than acute appendicitis per se. This rule does not apply to children, since they will develop a hyperpyrexia at the slightest provocation. The pulse is seldom of great diagnostic value. The so-called diagnostic ratio should be kept in mind, namely, that for every degree rise in temperature there is a ten beat increase in pulse. The respiratory rate is normal or roughly proportional to the fever; as peritoneal soiling progresses it increases. The patient with uncomplicated acute appendicitis usually does not appear to be seriously ill; in fact his appearance may be quite misleading as he walks into the doctor's office. Rarely have I found these patients lying in bed with right knee raised as is described so routinely in many textbooks.

To discuss the tremendous number of specific signs which have been associated with the diagnosis of this condition is not only exhaustive but exhausting; they have little or no practical value. To describe Bastedo's sign, Klemm's sign, Walkowitsch's sign, Reder's sign, Aaron's sign, Morris' sign, and many others too numerous to mention is only a display of academic muscle. Only those few signs, or tests, which are of practical value will be evaluated.

McBurney's Point.—This is the point of maximum tenderness as determined by the pressure of one finger. It is located in the following way: a line is drawn between the right anterior superior iliac spine and the umbilicus; this line is trisected. McBurney's point will be found where the lateral and middle thirds meet. A state of confusion seems to exist as to whether this point remains fixed regardless of the position of the appendix. Although it has been stated that the nerve endings of the eleventh and the twelfth dorsal segments are reflexely irritated by an inflamed appendix, practical experience suggests that the true point of tenderness is dependent upon the position of the appendix and not the fixed nerves.

Right Rectus Rigidity.—Increased tonus of the abdominal muscles, or so-called rectus rigidity, is not a sign of acute appendicitis, but rather a sign of peritonitis. We know that it is quite impossible to contract one rectus muscle without contracting the other. Why then do we refer to the sign as right rectus rigidity when both recti contract? To correctly test for this sign the examiner must place both of his hands on the abdomen, one on each rectus muscle. With gentle pressure he determines whether or not one rectus is rigid and the other relaxed. If such a condition exists and only one rectus muscle is found to be rigid, then this suggests a mass underlying the rigid rectus. Such masses in the case of acute appendicitis would be either a localizing inflammatory appendical mass made up of appendix, terminal ileum and omentum, or an appendical abscess. When both recti are rigid it denotes a muscular defense in response to an underlying peritonitis. Should such a rectus suddenly be released the patient will wince because of so-called rebound tenderness (Blumberg's sign).

Iliopsoas Sign.—This is not a diagnostic sign for acute appendicitis, but rather one which locates an inflamed appendix lying retrocecally and involving the fascia which covers the psoas muscle. It is conducted in the following way: the patient is placed on his left side and the right thigh is hyperextended (Figure 1). If pain over the appendical area is produced by this maneuver the test is considered positive.

Obturator Internus Sign.—This sign too locates an acutely inflamed appendix but does not diagnose it. It is performed by bending the knee and internally rotating the flexed thigh.

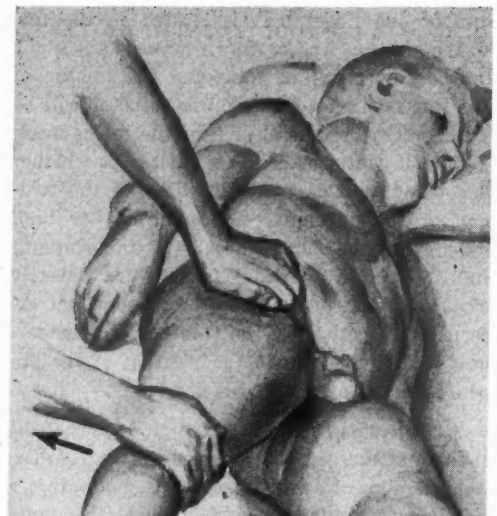

Figure 1. The Iliopsoas Sign.

Figure 2. The Obturator Sign.

This maneuver places the obturator internus muscle through its full range of movements and will cause hypogastric pain if an acutely inflamed appendix overlies its fascia (Figure 2). Pelvic inflammatory disease as well as an acute pelvic appendix can produce a positive obturator sign.

Rovsing's Sign.—This sign is considered positive when pain over McBurney's point is produced by exerting pressure over the descending colon (Figure 3). Supposedly it is due to a retrograde inflation of the cecum when colonic gas is forced from left to right in the presence of an inflamed appendix.

No physical examination is considered complete without a rectal or so-called bidigital examination. The latter is done, whenever possible, by placing the index finger in the vagina and the middle finger in the rectum. This will readily identify the cervix or adnexal pathology,

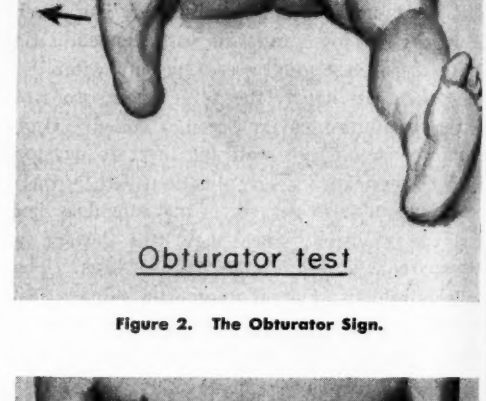

Figure 3. Rovsing's Sign.

a bulging cul-de-sac of Douglas, or fecal masses. Thus, greater orientation is obtained than is possible with a rectal or bimanual examination.

LABORATORY DATA

The laboratory data are helpful adjuncts in the diagnosis of acute appendicitis; however, they do not replace a carefully taken history and a well conducted physical examination. The differential blood count is at times more helpful than the total blood count, however, both of these are done routinely. Urinalysis is also a necessary procedure but may be misleading. If the inflamed appendix is located near or on the bladder, the ureter or the kidney, a few red cells may appear in the urine thus masking the picture. On the other hand, a rather large ureteral calculus may plug the ureter so thoroughly that no pus or blood can pass into the bladder and again the clinician is misled. Of late we have utilized a flat roentgenogram of the abdomen in those cases where the diagnosis is somewhat uncertain. Much work has been published recently regarding the isolation of fecaliths in the appendix as shown on stereoscopic views. This is helpful both in the direct and the differential diagnosis and should be kept in mind. There are numerous other laboratory tests which have been described, but these are of little or no practical value.

DIFFERENTIAL DIAGNOSIS

Although a tremendous number of diseases have been confused with acute appendicitis, for practical purposes, one must be thoroughly conversant with the usual conditions which cause the greatest diagnostic difficulties. The vast majority of our errors are found in the following five conditions: acute gallbladder disease, perforated peptic ulcer, renal colics, salpingitis and acute pancreatitis.

Acute gallbladder disease is more common after the age of forty. The gallbladder patient is usually the fair, fat and forty type of individual, with a history of selective dyspepsia and/or a previous similar attack. The pain is usually above the umbilicus and the tenderness is localized to the right upper quadrant of the abdomen. At times Head's zones of hyperesthesia will reveal the hyperesthetic area above the umbilicus and to the right, whereas such an area is found below the umbilicus in acute appendicitis. The pain is much more severe in acute cholecystitis and the patient usually requires sedation (this is most unusual in acute appendicitis).

Perforated peptic ulcer is almost always found in males. A history is elicited of a sudden dramatic attack of pain which doubled the patient up, forcing him to stop whatever he happened to be doing. Abdominal auscultation usually reveals a silent abdomen, and the roentgenogram demonstration of a spontaneous pneumoperitoneum is quite diagnostic. Tenderness is usually diffuse, the abdomen is board-like, the patient looks more ill, and shock may be present. The pin-point perforation of the forme fruste ulcer will present a misleading picture.

Renal colics may be caused by stones, uratic debris, microscopic thrombi or a dropped kidney with a Dietl's crises. The pain is usually in the loin, radiates along the course of the ureter, and then into the inner aspect of the thigh or the genitalia. A bradycardia is very characteristic of renal or ureteral colic. Tenderness over the kidney area is usually present. Red blood cells in the urine are most suggestive. In cases where great doubt exists emergency intravenous pyelography may provide the final answer.

Salpingitis usually occurs immediately before, during or after the menstrual period. It is extremely rare after the menopause. Tenderness is usually bilateral and over the region of the symphysis; on bimanual examination the tender tube may be felt; pain can be produced by moving the cervix. A positive cervical or urethral smear is pathognomonic.

Acute pancreatitis may be either the mild edematous type or the fulminating hemorrhagic type. The pain can be diffuse or it may be located in the back; in the latter case it is usually relieved by sitting up or lying prone. Shock is present early and the pain is extreme. A high blood amylase test corroborates the diagnosis.

TREATMENT

That the modern advances in chemotherapy have somewhat altered the treatment of acute appendicitis cannot be denied. Regardless of this fact, however, two schools of thought still exist. One group is of the opinion that acute appendicitis is a surgical condition whenever and wherever seen; the other group advocates conservative therapy in the so-called late or neglected case of acute appendicitis. A practical

Figure 1. The Iliopsoas Sign.

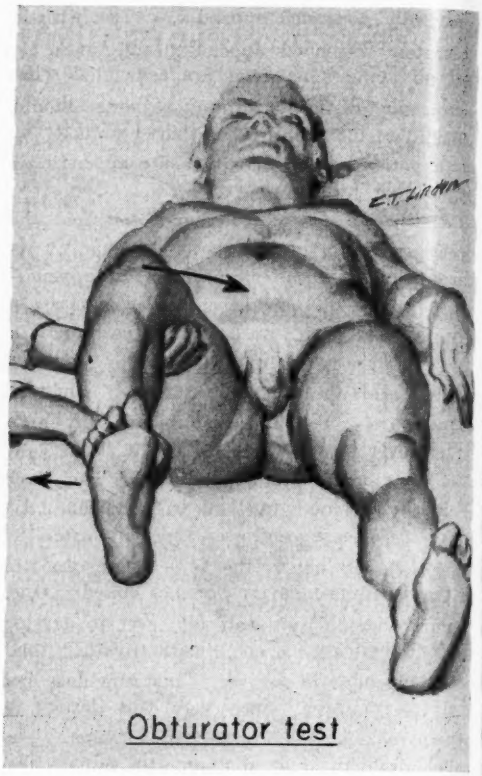

Figure 2. The Obturator Sign.

This maneuver places the obturator internus muscle through its full range of movements and will cause hypogastric pain if an acutely inflamed appendix overlies its fascia (Figure 2). Pelvic inflammatory disease as well as an acute pelvic appendix can produce a positive obturator sign.

Rovsing's Sign.—This sign is considered positive when pain over McBurney's point is produced by exerting pressure over the descending colon (Figure 3). Supposedly it is due to a retrograde inflation of the cecum when colonic gas is forced from left to right in the presence of an inflamed appendix.

No physical examination is considered complete without a rectal or so-called bidigital examination. The latter is done, whenever possible, by placing the index finger in the vagina and the middle finger in the rectum. This will readily identify the cervix or adnexal pathology,

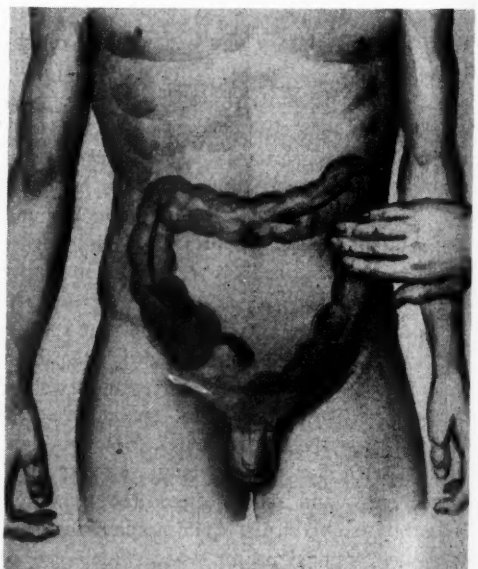

Figure 3. Rovsing's Sign.

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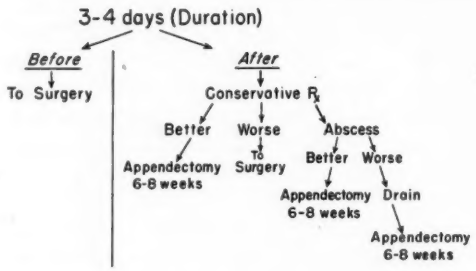

Figure 4. A Plan of Treatment for Acute Appendicitis.

middle of the road type of therapy can be applied which incorporates some of the tenets of both groups (Figure 4). It is always preferable to remove the leaking focus from the peritoneal cavity, however, there are times and situations when this cannot be accomplished.

A neglected so-called "3 or 4 day appendix" may be associated with a diffuse peritonitis or an early well defined appendical mass. In these two instances the mortality can be lowered if conservative therapy is instituted. Formerly, conservative therapy meant the Ochsner-Sherron regime, namely, Fowler's position, little or nothing by mouth, heat or cold to the right lower quadrant and sedation. Today, however, chemotherapy plays a major role; most cases receive penicillin for its effect upon the streptococci and staphylocci, and streptomycin which affects the gram negative rods. The sulfonamides, aureomycin and chloromycetin also have their advocates. Fowler's position has been discontinued in many clinics; I prefer to let the patient lie in any position in which he is most comfortable. The use of heat or cold over the right lower quadrant is purely a personal problem; either may be used since they act as counter-irritants which relieve pain, rather than having a direct bearing upon the appendical pathology per se. In the presence of gastric or small bowel distention gastric siphonage or intestinal intubation is indicated. Protein, carbohydrates, electrolyte, water and vitamin balance must be maintained. Plasma and blood are indicated at times. Sedation is necessary, however, full doses of morphine may mask the picture, hence, I prefer sedatives of a milder nature.

Under such a regime the neglected case of acute appendicitis will do one of three things: (1) get better, (2) get worse, or (3) form an abscess. There are many ways of determining whether a patient is getting better or worse, since changes in pain, distention, temperature, vomiting and abdominal sounds are all of diagnostic value. However, the one outstanding prognosticator is the pulse. A rule that I have followed and one which has served me well is the following: if the pulse increases twenty beats within an hour and continues to rise, surgical intervention is indicated. This should not be confused with a rapid pulse, in which case conservative therapy is still continued. The pulse is a more sensitive and more accurate indicator than all of the other signs.

If the condition should subside and the patient's condition improves, surgical intervention is delayed for 6 to 8 weeks. To attempt to do an appendectomy 8 to 10 days following a fulminating inflammatory process is to encourage wound infection, herniation, adhesions, fecal fistulae and intestinal obstruction. On the other hand, I feel that it takes approximately 6 weeks for the average inflammatory edema to disappear. If one waits during this interval and then has the patient return for an interval appendectomy the surgery is simple technically, and the postoperative course is usually uneventful. That the patient might have another attack within this waiting interval is possible but most improbable.

If, under conservative treatment, the patient gets worse, the surgeon is forced to operate; these are the cases which are associated with a high mortality. Surgical intervention is considered in the hope that the leaking appendix might be removed. However, these late neglected appendices are usually necrotic and oftimes cannot be removed; if removal is possible it may have to be done by morcellation. The question as to whether drainage is correct or incorrect in such a case is still controversial. I lean toward the school of thought which believes that the peritoneal cavity is only a potential cavity, and therefore cannot be drained. It has been my custom, therefore, to close these abdomens without drainage.

The third possibility under conservative treatment for the neglected case of appendicitis is the formation of an appendical abscess. This is suspected when the patient presents a spiking type of fever, chills, sweats and a leukocyte count over 20,000. Should such an abscess form it may get

better or it may get worse. If resorption takes place and the inflammatory mass diminishes in size the patient's condition will improve and the mass will disappear. Such a patient is permitted to leave the hospital and is advised to return in 6 to 8 weeks for an interval appendectomy. If, however, the mass enlarges and the patient's condition gets worse the abscess is incised and drained. If the appendix is found in the abscess cavity (this is most unusual) it is removed; if it is not found, an interval appendectomy is performed 6 to 8 weeks after drainage of the appendical abscess. Auto-appendectomies have been reported, but these too are quite infrequent.

This plan does not apply to children suffering with acute appendicitis, since it has been shown that children do not have the ability to localize acute appendical lesions. Therefore, in children, the rule must be followed that the case is a surgical one regardless of the time element.

TECHNICAL ASPECTS OF APPENDECTOMY

The choice of the incision, whether a McBurney or a rectus, will be determined by the type of case and the surgeon's preference. To spend a great deal of time locating the appendix can cause much embarrassment to the surgeon and postoperative discomfiture to the patient. Congenital absence of the appendix is indeed a rarity since this has been estimated to be present in one out of every 100,000 individuals.

At times it might be difficult to locate the appendix, however, by following two simple maneuvers the vast majority of appendices can be found readily (Figure 5). The cecum is picked up in a moist laparotomy sponge and gently pulled upward toward the anesthetist. The terminal ileal fat pad (a neglected bit of anatomy which is an excellent surgical guide) is grasped with a Babcock forceps and handed to the assistant at the opposite side of the table. These two simple maneuvers will result in bringing the appendix immediately into view in 85 to 90 per cent of cases. Since over 70 per cent of appendices normally lie retrocecally and since the terminal ileum and its fat pad run parallel with the cecum the rationale of these two maneuvers is apparent.

The anatomy of the appendical artery should be emphasized if the serious complication of intra-operative hemorrhage is to be avoided

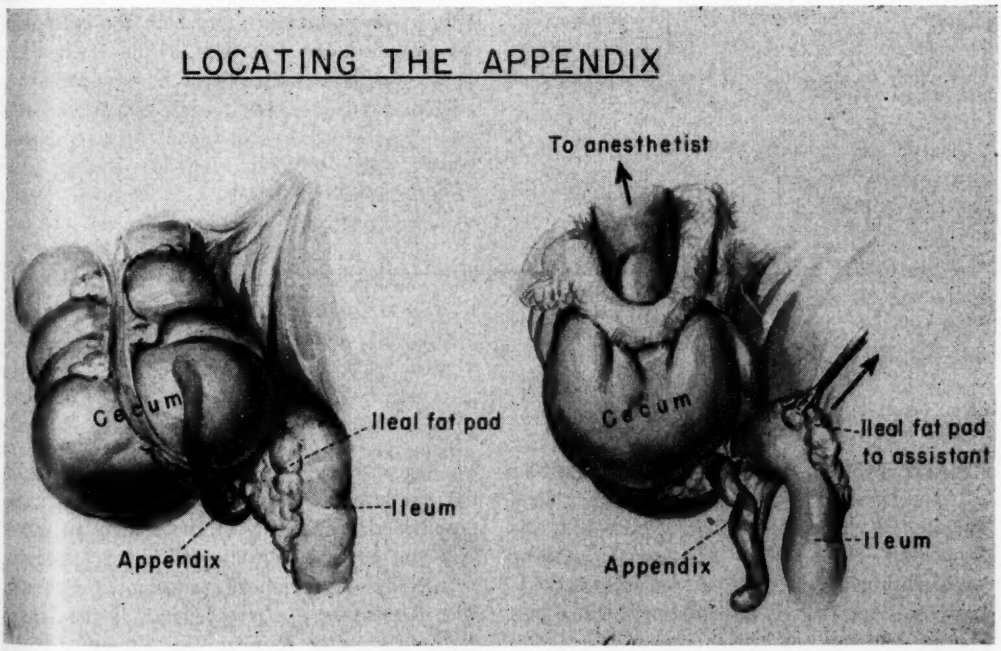

Figure 5. Surgical Anatomy as an Aid in Locating the Appendix. The appendix is placed retrocecally in over 70 per cent of individuals. The terminal ileum, as it leaves the pelvis to join the cecum, runs parallel with the cecum and not at right angles to it. The terminal ileal fat pad usually hides the appendix.

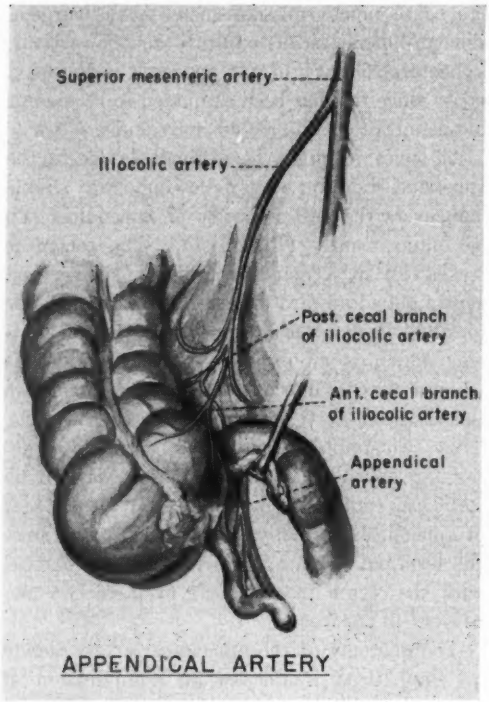

Figure 6. The Surgical Anatomy of the Appendical Artery. The appendical artery passes retro-ileally and not retrocecally.

(Figure 6). The appendical artery arises from the posterior cecal branch of the ileocolic artery. The artery to the appendix does not pass retrocecally, but takes a retro-ileal course. If, therefore, hemorrhage from a slipped appendical artery should take place during the course of an appendectomy the ileal fat pad should be raised and the bleeding point searched for behind the terminal ileum. A retrocecal search for such a bleeding vessel will fail to reveal the source of hemorrhage.

Many methods of management of the appendical stump have been described, these too must remain a personal problem until definite evidence can be produced to substantiate the claim that one method is definitely superior to all the others.

SUMMARY

1. The mortality of acute appendicitis still remains high.

2. The "two question test" has been useful in correctly diagnosing most cases of acute appendicitis.

3. The fallacy of right rectus rigidity as a diagnostic sign is discussed.

4. The iliopsoas and obturator signs are stressed as signs which locate rather than diagnose an acute appendicitis.

5. A simple method of locating the appendix is described.

6. A plan of treatment is presented which includes the management of both the early and the neglected case.

25 E. Washington Street

EDEMA FOLLOWING MASTECTOMY

There is a critical period following radical mastectomy when chronic induration of the corresponding extremity may develop. If swelling can be eliminated during this period, no enlargement or induration of the extremity will occur. The use of a continuous compression bandage to the arm for an eight-week postoperative period is recorded in 50 patients. In no case where the bandage was properly used did clinical edema of the arm develop. It is concluded that the routine prophylactic bandaging of the arm is an excellent preventive of chronic indurated upper extremity following radical mastectomy. *Excerpt: The Prevention of Lymphedema of the Upper Extremity After Radical Mastectomy, Joe M. Parker, M.D., Oklahoma City, Okla., The Amer. Surg., Sept. 1951.*

Obstetric Helps

C. O. McCormick, M.D.
Indianapolis, Indiana

I shall endeavor not to take undue advantage of the implied comprehensiveness of my subject, but will stress briefly a goodly number of what I consider practical aids in the all important field of obstetrics. Much of what I shall have to say will not border on the scientific, and no doubt will be rated as quite common place. Nevertheless, I hope each of you will find at least a few pointers you will want to carry back with you to your practice.

I shall begin with the statement, *"Every female child should be considered a potential mother."* The obstetrical millennium will not come to pass until this worthy consideration is extended her; and this not only by the profession alone, but by society at large. She is to be protected to the fullest extent by all health measures, including ample intake of vitamins A, C, and D; elimination of focal infections; and protection against those infectious diseases that reflect unfavorably during the child-bearing period.

In that rebella contracted during pregnancy, particularly during the first three months, is associated with a high incidence of fetal malformations, the female child, at least until a reliable vaccine is developed, should be designedly exposed to that contagion. The United States' incident rate of the first trimester, 27 per cent, has never run as high as the corresponding rate, 90 per cent, reported from one of the original Australian series. There seems to be little ground for the routine termination of such pregnancies as advocated by some. Personally, I question whether such a procedure is ever justified, in that medicine even in its most modern state has never gone all out for eugenics to the extent that we should destroy our unborn even though it involved the possibility of the destruction of those normally formed.

The teaching of sex hygiene in our public schools should be replaced by the more important goal, *healthy parenthood*; the former to be emphasized only as a means to that end. Every individual has a natural desire to become a healthy parent, and we should give all possible assistance to that desire. The physiology and some pathology of human reproduction should be included in the senior high school curriculum. This would lead to an increased general interest in prenatal and parturitional care. Besides, it is all wrong to prepare a girl for life by overemphasizing preparation for a classic career at the expense of a basic understanding of that most vital function for which she was primarily created, namely, reproduction. Hes physical design and certain correlated functions all but scream out the priority of that function.

Preconception examination should be routine. The increasing number of women, particularly those contemplating marriage, who come to their physician seeking such an examination, is quite convincing that we are living in a better day.

PRENATAL CARE

Prenatal examination should be thorough and adequate, and should include the following, —

1. A relevant family and past personal history.
2. Examination of teeth, tonsils, heart and lungs.
3. Checking of blood pressure and urine.
4. A careful taking of the pelvic measurements.
5. Checking the Wassermann, Rh factor, and hemoglobin.

Since most patients consider pelvic measurements the most important part of a prenatal examination, for the sake of their mental satisfaction it is good policy to take these measurements at the first visit.

Outlet pelvimetry is more important than *inlet pelvimetry.* It is at the outlet that most delivery difficulties arise; most labors are arrested; over 90 per cent of forcep operations are indicated; most permanent and fatal injuries to the infant occur — especially at breech births; and the mother suffers practically all of her immediate and most of her permanent birth damages.

The least an attendant can do is to estimate the bis-ischial diameter by passing his gloved

Presented before the General Assembly, Illinois Medical Society, 110th Annual Meeting, Springfield, May 23, 1950.

fist transversely between the tuberosities. An outlet admitting an 8 cm. fist will permit the birth of a 7 pound baby.

External inlet measurements are indirect, inaccurate, and of little value except to classify the type of pelvis, and are soon to be omitted from some leading standard textbooks.

The only real pelvimeter, the baby's head, can be readily applied to the inlet either manually or by test of labor, but not to the outlet until late in labor, which may be too late.

X-ray pelvimetry is well indicated in all cases where the architecture of a pelvis is questionable as to diameters and available capacity.

Erythroblastosis kills more babies than does syphilis, and for that reason checking of the Rh is more important than the taking of the Wassermann.

Although one of the most important and intriguing discoveries in the last half century, the Rh factor is frequently very disturbing to many expectant parents. Those parents, where the father is Rh positive and the mother Rh negative, should be informed that the first baby is very, very rarely affected, and that no more than one Rh negative mother in 30 will have an erythroblastotic baby in any pregnancy, and that in general 50 per cent of the affected babies live.

The only treatment for the infant is blood transfusion. The best results are obtained with compatible Rh-negative female blood — not the mother's blood. All babies erythroblastotic from the Rh factor should be transfused immediately after birth, preferably by the replacement method. A much lower incidence of mental retardation and brain damage follows from this technic than from the simple method. The degree of cerebral damage does not depend upon the degree of the erythroblastic manifestations.

Rh antibody titrations of Rh-negative expectant mothers should be routine.

Erythroblastosis *per se* is not an indication for induction of premature labor or caesarean section. Neither does the Rh-negative factor indicate therapeutic abortion or sterilization. If the husband is homozygous, barring legal complications, insemination may be justified.

All females below the menopause age, adults, children and infants, should have a serologic check on the Rh factor that they may be forewarned and protected against a transfusion with Rh-positive blood, and have their child bearing possibly foiled, and perhaps their own life jeopardized.

An Rh-negative donor list should be established at all hospitals.

Twelve per cent of all pregnancy patients are anemic. The hemoglobin, (or better still, the hematocrit, should be checked at the first visit, at six months, at term, and six weeks postpartum:

A hemoglobin of 9 mg. or less warrants a blood transfusion.

The prenatal patient should be seen at least every 4 weeks up to the end of the sixth month, every two weeks during the seventh and eighth months, and every week during the last or ninth month.

The *blood pressure* and *urine* examinations should be taken and carefully recorded at each visit.

The blood pressure apparatus is the most important of all prenatal equipment. Its usefulness is not limited only to hypertension complications, but is equally valuable in handling cases of cardiac disease. Regardless of what and how many murmurs a heart may present, we are not specially disturbed so long as the pressure is maintained at 120 over 80. However, we do lend closer vigilance.

A diagnosis of nephritis or toxemia during pregnancy or the puerperium should not be made solely on the basis of albumin present in a voided specimen. This custom often extends unnecessary anxiety and needless therapy to the patient.

Likewise, the attendant upon finding sugar in the urine, should not upset the tranquility of the patient and her family by informing her she has diabetes in addition to her pregnancy, at least not until he has ruled out lactosuria or has taken repreated fasting blood sugars. We must not forget that glycosuria in the early weeks of pregnancy is usually physiologic.

In supervising the prenatal patient the possibility of toxemia and placenta previa should be kept ever in mind — particularly during the last trimester. The mortalities from these two complications can be most effectively combated, not at the time of delivery, but during the prenatal period. Indeed, they afford the greatest excuse for prenatal supervision.

As a prenatal patient sits before her physician in his office, it should occur to him, "Madam,

you are a candidate for two possible catastrophies, eclampsia and placenta previa." With this in mind, he is duty bound to question her at each visit as follows, "Mrs. 'Jones,' since your last visit, have you had any nausea or vomiting?" "Have you had any dizziness?" "Have you had any vertex headache?" "Have you had any insomnia or sleeplessness?" "Have you had any blurred vision?" "Have you had any morning swelling of the face?" "Have you had an epigastric or upper abdominal pain?" "Have you had any spotting of blood or bleeding from the vagina?" Not until he has a negative answer to each of these questions, and has found the blood pressure and urine to be normal, has he exhausted his responsibility to the patient, nor can he say, even to himself, "Mrs. 'Jones', you are in no immediate danger.

May we interject: *Evening edema of the lower extremities is usually physiologic, while morning edema of the face is usually pathologic.*

A normal systolic pressure rising to 140 or 160 mm of mercury, with or without albuminuria or subjective symptoms, means *hospitalization.* A raising and sustained diastolic is equally, if not more, significant; and the younger the patient, the greater the significance. Likewise, there should be hospitalization of all cases of painless, causeless bleeding in the last trimester. There should be no rectals, vaginal, or packing in the home. If a blood bank is not available, donors should be taken along, or better, they should be sent on ahead that they may have their blood typed and checked for the Rh as soon as possible.

The *diet of the prenatal patient* should not be restricted except when an abnormal weight gain is constant, or some systemic complication arises. We are all familiar with the expression, "Doctor, I eat like a horse." Particularly do we hear this during the second trimester. This sudden increased demand for food, as experienced by the majority of patients, leads one to believe that Nature in a protective mood is trying to overcome some heretofore bodily deficiences. Accordingly, I let my patients eat, knowing that the size of the baby will not be affected; that eating is one of the few pleasures of the expectant mother; and that in the majority of cases the demanding appetite will have only a temporary "run".

The annoying and frequently very distressing symptom of *hyperemesis gravidarium* is often treated too casually and inconsiderately by the attendant.

At the very certain risk of being criticized as ultra *passé,* I, from my experience of more than two and one-half decades, empirically recommend so common a drug as luminal sodium, given intramuscularly in the gluteal muscle of a dosage from 2 to 5 grs. The average case requires but a single administration every 2 to 7 days. The preparation is put up in powder form in ampules by the Winthrop Chemical Company. Down through the years I have run the gauntlet of using the various hormones and vitamines, and more recently the combination of pyrodoxine and suprarenal cortex. In our hands, especially in ambulatory cases, none has given the satisfactory results as luminal sodium. Its closest, but only fair, competitor has been oral draminine in 50 mg. doses, taken one-half hour A.C. one to three times daily as needed.

Another gratifying service to the expectant mother, especially after the sixth month, is the *maternity corset,* which in a true sense is an abdominal support. Were the husband to have an abdominal tumor of a similar size, he would quickly welcome such a garment.

A properly fitted maternity corset reduces the incidence of striae gravidarum, relieves the fatigue of the erector spinae muscles, lessens the discomfort of the softened sacro-iliac and symphysis joints, improves the body lines for dress appearance, and eliminates the need for the undesirable feature of round garters or rolling of the stockings.

In our practice we have found it most practical to have the garment fitted in our office by our experienced nurse. We also do the subsequent adjustments.

A *layette pamphlet,* given to the patient at her first visit, is an appreciated service, especially by the primiparous patient. The pamphlet, in addition to listing layette articles and naming the various stores from which they can be purchased, should include pertinent information and instructions for the mother as to her diet, clothing, exercise, personal hygiene, abnormal symptoms, schedule for routine visits, the doctor's office hours and phone numbers, and signs of beginning labor. It is, also, helpful to include a separate list of articles such as nursing bottles, nipples, baby powder, hot water bottle, bath thermometer, etc.; all to be available in one package

at some local drug store. The package, which may be ordered as the "Infant Package", eliminates considerable petty shopping on the part of the patient.

Another minor, but very practical service, is supplying each patient with an *appointment slip or folder,* indicating the date and hour of the next appointment. This eliminates much forgetfulness on the part of the patient, keeps appointments running more smoothly, and eliminates much unnecessary phoning by the receptionist.

Being ever alert for breech presentation, transverse-lie, and multiple pregnancy, the competent attendant will practice careful abdominal palpation at every visit after the seventh month. In all cases of either of these suspected diagnoses, he will seek the aid of the X-ray. In the case of breech it will confirm the diagnosis, identify the variety of the presentation, disclose deflection attitudes, and reveal the occasional unsuspected and frequently associated pelvic contration.

A virtual proof of breech presentation can be achieved by applying *Mengert's maneuver.* This is performed by steading the breech with one hand while slowly, firmly, and steadily compressing the fetal head with the fingers and thumb of the other. The resulting pressure produces a marked slowing of the fetal heart rate from 140 to less than 100 beats per minute. A similar pressure to the breech produces no alteration in the fetal heart rate.

Since the fetal mortality of the breech presentation is three to five times that of the cephalic, and that of the neglected transverse-lie is 100 per cent, it is quite mandatory these two mal-presentations be promptly corrected. With all conditions favorable, this is accomplished by external version, and is done with greater ease *and more success from the thirtieth to the thirty-sixth week.* The later in pregnancy the operation *is performed, the greater is the need for anaesthia,* preferably surgically deep ether, and the greater the number of failures.

Efficient prenatal care is as important as efficient delivery care.

All labor cases should be hospitalized. If it is important that father go to the hospital to have his tonsils removed, and it is, then it is more important that mother go to the hospital to give birth to his offspring. By all means this applies to all previous section cases, breech, transverse-lie, and chin posterior presentations; and those cases of placenta previa, abruptio placentae, and contracted or border-line pelvis, and cases complicated by cardiac, pulmonary, and nephritic diseases.

CONDUCT OF LABOR

Analgesia in labor is here to stay, and anyone attempting the practice of obstetrics in a modern community, should first be well trained in the use of one or more of the present day methods.

A most important feature in the conduct of labor is *checking and recording the fetal heart* rate *at regular intervals* — every 30 minutes during the first stage; every 15 minutes during the second stage; and oftener as the moment of birth approaches.

The more closely this routine is observed, the greater is the number of salvaged babies.

Let us be ever reminded that the obstetrical patient differs from the medical or surgical case in that it extends us the responsibility for two individuals, and that the stethoscope is our chief aid in checking the well-being of the one unseen.

Pelvic examinations should be made rectally. However, in the case of delayed progress in labor, or some irregular presenting part is discerned by rectal, or when determining the diagnosis of placenta previa, then, by all means, should the vaginal be utilized.

CONDUCT OF DELIVERY

1. *For the sake of asepsis,* the patient should not be taken to the delivery room longer than one-half hour before the expected time of delivery. *A much longer period is quite certain* to lead to contamination. It is difficult to prevent perspiration, amniotic and fecal fluids from conveying in time bacteria through the draping materials — as well as the problem of keeping *the drapes from becoming awry. Likewise, there* is the likelihood of contamination of the instruments *from prolonged exposure; and, also, the* difficulty of controlling of non-sterile contacts by the assistants, when subjected to tiresome waiting.

In such instances redraping and replacing of gowns and gloves should be a usual routine. In other words, the spirit of Semmelweis should ever prevail.

2. In general, one should follow the slogan, *"If a perineum exists, an episiotomy should be*

done." Unless apt at repairing third degree lacerations, one should go slow in adopting the routine median. It is better to guide the baby beside the rectum rather than through it.

An outstanding goal of every delivery is an intact sphincter and a nulliparous introitus. A timely episiotomy and a proper repair will guarantee both. *In repairing a perineum, one should always preserve its expression.*

3. When delivering a premature infant one should adhere closely to the dictum, *"The more premature the infant, the more generous the episiotomy."* It is here an episiotomy is often a life-saving measure. Fully 50 per cent of all premature infant deaths are due to intracranial hemorrhage. This results from injury to the frail blood vessels born by the delicate brain-supporting structures, and is in direct proportion to the degree of moulding.

4. In repairing episiotomies and perineal lacerations, one should avoid *too many, too tight, too hard, and too haphazardly placed sutures.* When the patient's limbs are taken down from the leg-holders, all the perineal structures that have been injured fall into normal relation, and all that is necessary in their repair is to gently coapt their respective margins for the brief period of ten days. By that time Nature will have taken over.

5. Conditions being favorable as to skill and surroundings, the *prophylactic forceps* is an operation strongly recommended. It spares the mother the most exhausting hours of her labor, and the infant, prolonged cerebral compression.

6. In the conduct of the third stage the blood loss should be checked as much as possible. *It is simpler to conserve blood than it is to transfuse it.* It is here we depend much upon the use of oxytocics.

Either of the following methods is highly practical:

(a) Five tenths to 1.0 cc of pituitrin is given hypodermically following the birth of the baby, and one ampule of ergotrate (gr. 1/320) hypodermically after the birth of the placenta.

(b) The Chicago Lying-in technic. After a delay of 30 seconds following the birth of the head and the assured birth of the shoulders, 1 cc of ergotrate (gr. 1/130) is administered intravenously.

We prefer and routinely employ this latter method. In practically all instances the blood loss from the uterus is less than that from the episiotomy. We further find it eliminates the need for the administration of some ergot preparation during the first two or three postpartum days as customarily done for the prevention of subinvolution of the uterus. It thus reduces both medication to the patient and service by the nurse.

(The ice-bag to the fundus has rightfully, long since become *passé.* Not only is its efficiency questionable, but it serves as an added chore to both the nurse and the patient. Besides, 18 (??) per cent of them leak.)

PUERPERAL CARE OF MOTHER

1. The long standing, dogmatic dictum, "Pituitrin is a criminal agent if administered before the birth of the child", has until recently held us in abeyance in developing the fullest utilization of this oxytocic. However, as with the mastering of strychnine as a useful drug, we have developed its administration and regulated its dosage to a degree that it is now not only a safe, but a most important aid in handling such problems as induction of labor, inertia uteri, postpartum hemorrhage, and abruptio placentae.

The *intravenous drip technic* is more physiologic than the intramuscular and intranasal methods, and for that reason is safer and more efficient. Since *pitocin,* perhaps not quite as efficacious as pituitrin, reduces pituitary shock and eliminates the danger of blood pressure elevation in unrecognized preelamptic patients, it is the better choice of the two preparations.

Technic of Intravenous Pitocin Drip for the induction of labor and treatment of inertia uteri:

(1) Mix 5.0 m. of pitocin thoroughly with 500 cc 5 per cent glucose solution. (50 cc of solution is equivalent to 0.5 m. of pitocin.)

(2) For the first half hour administer with a pre-tested Murphy drip apparatus 0.25 m. of *pitocin — 12 to 14 drops of the solution per* minute — .8 cc of solution.

(3) After the first half hour, if .25 m. is not effective, increase to 0.5 m. of pitocin over 30 minutes — 25 to 30 drops of the solution — 1.7 cc of solution.

Precautions:

(1) Do not have the solution flowing when the needle is inserted — a dangerous amount of the pitocin might be given before the flow is

regulated. The number of drops should be built up from zero.

(2) The patient should never be left alone. The flow must be checked from time to time. Moreover, the clamp might slip.

(3) The uterine contractions must be observed constantly. If they exceed 2 minutes or if the fetal heart tones show abnormal variation, the clamp must be shut off immediately and remain shut until the disturbances are corrected. In the meantime a normal salt solution by means of a Y-tube may be switched for the pitocin solution.

These precautions must be observed unrelentingly. A pituitary oxytocic unscrupulously administered intravenously can be "dynamite".

The greatest use of *pitocin drip* is the treatment of postpartum hemorrhage. Eastman reports he has successfully substituted it for the intrauterine packing in treating uterine hemorrhage in their last 12,000 delivery cases. In dealing with this complication, the rate of flow may be increased to 60 or 70 drops per minute if indicated.

It appears pitocin drip is destined to replace the intramuscular use of pitocin and pituitrin, as it can be advantageously employed, also, in incomplete and septic abortions, some cases of hydatiform mole, certain cases of abruptio placentae, and following the birth of the baby at caesarean section.

2. An abdominal binder for the first two or three postpartum days is gratefully accepted by the patient. This is ordered for her *comfort* only, and not as a prophylactic against hemorrhage or as an aid for figure restoration. The uterus following delivery weighs 2 pounds, and its supporting structures are extraordinarily lax, and the abdominal wall extremely flacid. The supporting effect of the binder gives real comfort.

3. The patient is entitled to and will tolerate *a regular diet* as soon as she has recovered from her labor and anaesthetic. Her many hours of exhaustive labor should extend her the same consideration given the gridion star, whose meal following one hour of many times less physical expenditure includes a one and one-half inch steak. Her digestive tract and forces have not been disturbed, and it would appear to be an injustice to limit her to a sloppy and soft food diet the first 24 to 48 hours after delivery, a routine frequently observed.

4. Most patients can be relieved of *perineal pain* by removing the vulvar pad and applying an ice-collar covered with a sterile towel. Heat from a light bulb, also, serves well.

5. The *engorgement of breasts* is readily relieved by oral stilbestrol — 1 to 2 mg. taken t.i.d. for 2 or 3 days. If it is desired to dry up the breasts, the dosage is increased to 5 to 10 mg. t.i.d. for 3 or 4 days.

A properly applied *adhesive support, not binder,* can also be used in the treatment of engorgement. It gives complete relief, and has the advantages over the soft material supports of being completely efficient, not having to be changed at nursing time, being more comfortable, and allowing easy access to the nipples for nursing.

6. The patient can profit greatly by exercises during the puerperium, and some such routine as the following should be prescribed:

a. *First day and after:* Lie on stomach ½ hour or longer t.i.d. This replaces the awkward and embarrassing knee-chest position.

b. Second day and after: Raise one foot then the other with the knee straight toward the ceiling 10 to 12 times night and morning. Sit on the edge of the bed and dangle feet 5 to 10 minutes 2 or 3 times daily.

c. Third day and after: With arms folded high across the chest, rise rapidly to upright sitting position and recline slowly 10 to 12 times night and morning following limb exercise, "b".

The patient should continue lying some on stomach during the day or during sleep, and the sitting-up exercise, "c", for one month after leaving the hospital.

7. As we retrospect through the years there arises an inner penance for the disservice we rendered our loyal patients who so faithfully accepted our orders to remain in bed 10, 12, 14 or more postpartum days. This late rising delayed their convalescence, and often so because of unnecessary complications resulting therefrom.

Early rising is now commonly conceded to have the following advantages, —

a. An increased sense of physical well-being and a better psychological attitude.

b. A reduced incidence in such complications as cystitis, respiratory infections, thrombophlebitis, and pulmonary embolism.

c. A more rapid involution of the uterus.

d. An economic saving because of a briefer hospital stay, and

e. A shorter convalescence period.

Routines of early rising vary in different clinics. Ours is as follows, —

a. Second day; Up in chair 15 minutes 2 times.

b. Third day: About room 30 minutes 2 to 3 times and to the toilet.

c. Fourth day: Up and down corridor.

d. Fifth day: Shower bath.

e. Sixth day: Privilege of washing hair.

The daily exercises listed above are conducted in conjunction with these early rising privileges.

Although early rising may enable a patient to leave the hospital as early as the 5th day, it is preferable that she not do so before the 8th or 10th day. She is well entitled to the extra days of hospital rest.

CARE OF THE INFANT DURING THE PUERPERIUM

1. The first service to the infant is thorough aspiration of its nasal and bronchial passages. This is to be done before any stimulation of respiration. The nares and mouth can be aspirated with a 4-ounce soft rubber ear syringe as soon as the head is born. Immediately following the cutting and ligating the cord, the trachae should be freed of mucous with a soft rubber catheter.

Aspiration of caesarean born babies should be routine, since it has been found their bronchial tree contains on the average of 6 to 8 cc of mucous, which is three times the average found in babies born per vaginum. No doubt this fact accounts for many of the unexplained deaths that occur shortly after birth among babies delivered by section.

All apneic babies are to be given oxygen.

2. The care of the infant in the majority of cases, at least until the pediatrician or family physician takes over, becomes the responsibility of the obstetric attendant.

We put the baby to the breast 12 hours after birth. This is done chiefly to give the mother the pleasure of seeing the baby. During the next 24 hours it is taken to the breast every 6 hours. Babies weighing 7 lbs. and over are then put on the 4 hours schedule (both breasts at each nursing), omitting the 2 a.m. feeding. The baby readily adapts itself to this schedule, and spares the mother the chore of nursing at 2 a.m. after she leaves the hospital.

Babies weighing 5½ to 7 lbs. are placed on a 3 hour schedule during the day and 4 hour at night, nursing on but one breast at each feeding.

Premature and immature infants (less than 5½ lbs.) are given incubator care, and are not given water, food or a bath the first 24 hours.

3. We believe a supplementary feeding until the breast milk is established is well indicated. It prevents inanition fever, reduces the so-called physiologic birth weight loss, and affords the mother considerable peace of mind.

Our favorite formula, a simple and practical one is the following:

Evaported milk IV

Karo syrup .....ss

Boiled water VIII

Sig: I — II P.C. until breast milk is established.

4. *Circumcision. Too many babies are needlessly circumcized,* and there are two common errors in the usual technic: the removal of too much foreskin, and unnecessary suturing.

Nature intended the glans be completely covered. Therefore, we should strive to have it at least two-thirds or three-fourths covered. The cornification of the epithelial covering of the exposed glans, which results from the glans rubbing against the trouser flap during the many years of growing manhood, sometimes hampers the pleasure of the marital act in later life.

Hemostasis is the only indication for sutures, and they are rarely found necessary. The clamp method greatly eliminates their need.

An excellent *circumcision dressing* is a rolled five or six inch piece of surgical gauze three-fourths of an inch wide, autoclaved in albolene. The dressing is applied by wrapping it firmly about the penis, and it is not disturbed until it drops off about the third or fourth day. At that time the wound is sufficiently healed as not to require further dressing. The two advantages of this dressing are it does not have to be changed, and it permits the infant to urinate through it rather than into it.

5. A much appreciated service, particularly by the mother and grandmother, is the *removal of the cord stump* before the baby is taken from the hospital. This can be safely done as early as the fifth postpartum day, and is readily performed by twisting the stump off either with a piece of gauze or with the aid of a hemostat. The oozing base is treated with a silver nitrate

stick, and then covered with a tincture of merthiolate dressing. This has been our routine the past several years, and we can strongly recommended the procedure.

POSTPARTUM CARE

The responsibility of adequate portpartum care does not end at the six weeks examination, but should be continued throughout the first year with check-ups at three months, six months, and one year.

At the six weeks examination, the mother should be checked as to involution and position of the uterus, perineal healing, blood pressure, urine, and hemoglobin.

Two-thirds of all retroversions that did not exist prior to pregnancy can be permanently corrected by use of the pessary.

The infant, which as a rule has been placed in the hands of the pediatrician or family physician and checked before leaving the hospital, is seen only at this visit, and is checked for the condition of the naval and circumcision.

Any endocervicitis found after the third month should be completely eradicated. This can be done in practically all cases by an office cautery. But few services are more appreciated by the patient, in that it not only eliminates a rather common forerunner of cancer, but the leukorrheal nuisance as well.

A woman does not have to have a leukorrheal discharge just because she has had a baby. Postpartum care is frequently synonymatic with preconceptional care.

"HUMAN RELATIONS"

No branch of medicine lends itself so closely to human relations as obstetrics. *The birth of a baby is the most humane event in all life.* It evokes the most joyous interest of every family member, and the worthy attendant will capitalize upon sharing the exaltation.

Let us be reminded, *the obstetrician should not wear the cheerless face of a mortician.* At all times his lot is to eminate cheerfulness, and in this light, he should always be tactful enough to have a patient smiling as she leaves his office. The word, "easy", should be frequently employed when discussing her case with her. It is well to interject occassionally such remarks as, "Mrs. 'Jones', your measurements are normal. I am sure you are going to have an easy delivery." Or, "Your baby lies in an easy position, and you should have no difficulty". Or again, "Tell Mr. 'Jones', your blood pressure and urine have continued normal, and that your progress has been excellent." Yes, simple statements, but how they do register!

Above all, let us not overlook the husband's interest in the case. *When a husband asks us to deliver his wife, he is paying us a special compliment.* This is true whether or not the remuneration will be immediately forthcoming.

Certainly we should have more than a casual speaking acquaintance with him. He should be invited to make at least one visit to the office during the prenatal period. At this visit we should meet him as man to man, and let him know we expect to give his wife the best possible care, and that we would appreciate his co-operation by getting in touch with us anytime he has any question about her welfare, or if there are any abnormal symptoms he would like to report, et cetra.

Probably our biggest service to him is keeping him informed as to his wife's progress during her labor. *Here the Golden Rule is very fitting.* It is certainly inconsiderate of us, when we allow him to "sweat it out" hour after hour in the waiting room. If the labor should be prolonged, it is a kindly thing to advise him to go home for some sleep, or to return to his office, and assure him we will report to him from time to time, or at least when his wife is to be taken to the delivery room. And when we report the outcome of the delivery to him, let us be prepared not only to give his wife's condition and the sex of the baby, but also its weight.

These remarks upon "Human Relations" can be interpreted and appraised as those of "Good Public Relations."

In conclusion, the over-all emphasis of this presentation has been upon the importance of service to the patient. Let it be said, "If we give service, only two things can prevent our success, physical death and moral death. The one is inevitable, the other is up to us."

Finally, I would like to leave the souvenir thought, —

The Mortal life of a worthy obstetrician extends far beyond his tomb.

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An Evaluation of Five Years Experience With Continuous Caudal Anesthesia

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Since the publication and work by Hingson and Edwards[2] in the application of continous caudal anesthesia to obstetrics, there has been initial high degree of interest and productivity of statistics, pro and con. Most of these works were carried on in fairly large institutions, where complete house staffs and resident anesthetists were the rule. From their figures certain trends of ideas developed among which was the opinion that caudal anesthesia should be restrained and practically limited to institutions with house staffs. While content to gather information as to the technical aspects of continuous caudal and statistical results, it was felt that the only place to determine the applicability of continuous caudal in smaller hospitals was in such a hospital itself. With this in mind, our obstetrical cases have been reviewed from the time we started using caudals in May 1943 through April 1, 1948. There were a total of 2044 deliveries. An attempt will be made to evaluate obstetrical results using statistics only where necessary, so that the subject of this paper will not be a boresome repetition of uninteresting figures. The impressions obtained are the results gathered from complete personal contact with the patient throughout the application of the technique.

The obstetrical procedures were carried out between two hospitals in the Champaign-Urbana area. One of these, Mercy hospital, is a general hospital with a rated capacity of 90 beds, and an obstetrical floor normally designed to accommodate 220B patients. The other hospital, Burnham City Hospital, has a normal capacity of 110, with provisions for approximately 18 OB patients.

Neither hospital has a house physician, but both have a well organized medical staff, and each has an active obstetrical committee.

This report includes a total of 2044 deliveries, 1126 with a caudal, an incidence of 55%. Infant mortality includes all deaths; still births included, of infants having attained 28 weeks of introuterine gestation.

In this review, the period May 1943 to May 1944 was the first year of exeperience with continuous caudal. During this year there were a total of 420 deliveries of which 222 or 52.9% were delivered by caudal. This 52.9% constitutes caudals which the patient and the operator considered satisfactory from an analgesic and anesthetic standpoint. A higher percentage was attempted but it was found that in approximately 10%, it was not possible to insert the needle-or when it was thought that the needle was properly placed, results were ineffective. Of this total group, 326 were primiparas and 94 multipara. In this group there were a total of 9 caesarian sections, or a 2.1% incidence of sections, of which 4 were performed under caudal anesthesia. There was no maternal mortality in this group, and one serious complication following the use of caudal.

Our infant mortality was 11, a 2.5% incidence. Of these, 7 were in the caudal group and 4 in the group in which a general or no anesthesia had been employed. The one troublesome complication occurred in a very obese individual in whom a caudal should never have been attempted. This patient developed an abscess deep in the perisacal tissue which required incision and drainage. In reflecting upon this first year of caudal experience, we found ourselves very enthusiastic about the entire procedure, despite the fact that anywhere from 2-16 hours were spent with individual patients in labor. The calmness that prevailed in the labor room plus the apparent cheerfulness of most mothers, plus the ease of delivery—and the very definite decrease of blood loss following the third stage, kept enthusiasm at a high level. Since the patient was not under a general anesthetic, the episiotomy wounds could be repaired leisurely without worrying

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about an anesthetic causing hemorrhage incident to uterine relaxation.

Being accustomed to an almost routine outlet forceps and episiotomy for primigravida under any form of anesthesia, operative incidence was not appreciably increased. However, there was certainly a definite increase in occiput posteriors and deep transverse arrests, but it was felt that corrective manipulations were extremely easy in most instances because of the greater degree of relaxation of the pelvic floor. Caudal anesthesias were administered to as many cases as possible and whenever possible, except for the definite contra-indications which are given by Hingson[4] and are so generally well known. A small percentage of our cases showed an appreciable hypotension associated with marked pallor and anxiety, but found this not too troublesome because most of these cases responded promptly with simple elevation of both legs and passive bicycle type leg exercises. In others, Ephedrine Sulfate 1.M was administered and restored B.P. levels to near normal. In only 2 cases was it felt necessary to discontinue the anesthesia because of continuing hypotension and syncope in the patient. There were 2 cases that showed definite syncopal symptoms after the test dose of 8 cc. with muscle tremors and some jactitation which were only momentary, but nevertheless frightening for a short period of time. In none of these cases was there any significant fetal distress either intrauterine or after delivery of the infant. It goes without saying that the first 25 cases gave the highest percentage of inability to insert the needle properly, but proficiency increased rapidly. Greatest success was attained after the malleable needle was discarded and replaced entirely with the rubber catheter method described by Manalou[1]. Before long the quantity of the test dose was diminished, and instead of injecting 8cc. only 4cc. was injected. It was felt that this would give us information regarding intravascular injection or unusual sensitivity to the drug. After 5 minutes the remaining 4cc. was administered and then another 5 minutes was allowed for signs of spinal anesthesia, before going ahead with the additional 20-25cc. of Metycaine necessary to produce an effective level. There were 4 cases of a low lying dural sac and test aspiration revealed spinal fluid, and therefore no further attempt to use caudal was made. These 4 cases occurred in the entire series. Most patients took to the idea of caudal favorably, but there was also a considerable percentage who feared the idea of a "needle in the spine". After about six months we began to hear reports about terrible cases of paralysis, backache, headaches, and even cases of fatalities which strangely "escaped our attention" while the patients were still under care in the hospital. These reports seldom came from the patients themselves, but from someone else. There were a few cases who were sure that their backaches and post-partum depression and lassitude was attributable only to the caudal. These complaints were evaluated carefully and it was felt that there was no increase in these sequelae following caudal, than would follow the ordinary process of parturition. There were patients who delivered during this time who had not been given caudal but were under the impression that they had been given caudals, and they too developed many symptoms supposedly due to caudal. In other words, we could find no real complications following caudals in any of the cases.

Thus we concluded our first year of experience, and we felt elated with our results. From May 1944 to May 1945 there were a total of 427 patients of which 221 received caudal or a 64.2% incidence. In this group 130 were multipara and 297 primipara. There were a total of 10 sections, or an incidence of 2.3%. Of these 10 cases 6 were performed with caudal and 4 under general anesthesia. There was no material mortality and no serious sequellae resulting from caudal. The infant mortality for the entire group was 9, and incidence of 2.1% with 2 for those under caudal. The catheter technique described by Adams and Lundy[3] was used completely, because it was felt that the proper insertion of the catheter was easier than the malleable needle, and also that there was less apprehension about manipulating a patient than with a needle in situ. Although the percentage of caudal had increased over the previous year, there was a more carefull selection of cases in advance of labor as to their suitability for the procedure. That is, people who seemed to be emotionally unstable or had complaints such as chronic headaches or backaches, were eliminated. By the elimination of these individuals, better evaluation of sequellae resulting from

the procedure was possible. Individuals who spontaneously expressed a fear of the method were eliminated, nor were patients influenced in accepting the procedure. The method was used in all types of presentation, including breeches. After selection of proper cases and once the patient went into labor, the administration of caudal was started only when the patient became definitely uncomfortable and asked for relief, and then the caudal was given only when there was active progress of labor. The degree of cervical dilatation was not used as a rigid formula, but in addition to the subjective symptoms. In doing this it was found that in contrast to the previous year, the duration of caudal administration was considerably decreased and there were practically no cases in which the caudal was administered longer than an 8 hour period. This had two distinct advantages. The most important one was the patient's reaction. Whereas previously caudals were administered quite soon after the onset of labor and before the patient was in real distress, some patients felt that they had not performed their duty as a mother. Another patient reaction with a long continuous caudal was a rather constant restlessness and apprehension which inevitably made its appearance. Many patients did not like the feeling of complete helplessness and also developed anxiety about what was happening and wondered if they were really making progress. A great deal of encouragement was necessary to convince the patient that their child would eventually be born. The effectiveness of caudal very definitely decreased after about 8 hours, and more frequent refills were necessary and analgesia was no longer complete. The other advantage with a shorter caudal was our own personal reaction. Despite our elation with the method, weariness began to dull enthusiasm, and we found ourselves losing our cheery disposition a little more readily. At times there was an inclination to speed up the second stage and unless great personal discipline was used, a few of the low forcep deliveries were becoming a little less low. Fortunately, obstetrical conscience prevailed before there were any serious accidents. Our reactions then at the end of this second year of effort were something like this: Many more women than we realized would go along well into the first stage of labor with minimal sedation when they were given assurance that complete relief would be forthcoming whenever they required it, provided that sufficient progress was evident. Many more women had a glow of satisfaction at their own efforts and then were lavish in their praise of a method that gave them such dramatic relief when they desired it.

From May 1945 to May 1946, we had a total of 334 deliveries, of which a total of 214 were performed under caudal or an incidence of 71%. There were 121 multipara, 213 primipara and no maternal mortality. Fetal mortality for the entire group was 6, and incidence of 1.8% of which 4 occurred in caudals. There were 13 sections, a 3.6% incidence, 5 of which were performed under caudal anesthesia. Initially we were quite thrilled with our results of caesarian with caudal. With effective levels obtained by consecutive 10cc. injections at intervals we were able to bring the level of anesthesia above the umbilicus, and the patient experienced no pain during the procedure. The operator would proceed leisurely and no infants required resuscitation. The very definite decrease of uterine hemorrhage was an extreme advantage. The lack of anesthetic effects on the infant too, was striking. The disadvantages of continuous caudal in ceasarian were two-fold. The first was the time consuming factor in obtaining proper anesthetic levels, and sometimes 45 minutes elapsed before proper levels were obtained to proceed with surgery. There were also several cases in which there was a precipitous drop in systolic pressure, and the patient showed marked pallor and restlessness, although the pulse volume remained good. Despite no apparent ill effects to mother or infant, it was a real concern to us to proceed with a surgical procedure with a patient in marked hypotension.

From May 1946 to May 1947 there were a total of 438 deliveries of which 251 or 57.3% were delivered with caudal. There were 190 multipara and 248 primipara. There was no maternal mortality and there was an infant mortality of 3 in the caudal group and 3 in the general group, a total incidence of 1.3%. There were 23 sections performed for a 5% incidence and caudal was used in only 2 of these. From May 1947 to May 1948 there were 425 deliveries of which 218, or 51%, were delivered with caudal. There was no maternal mortality. There were 4 infant deaths in the caudal group and 4

in the control group for a 1.8% total. Twelve caesarians were performed for a 2.7% incidence and no caudals employed. During these last two years, then, it was apparent that we almost completely discarded caudal in caesarians for the reasons mentioned previously.

It will be noted that approximately 55% of caudal deliveries was attained and that this percentage was the result of trying to use caudal whenever possible. We wanted to see in what percentage of cases caudal could be employed, because a method must be practicable if it is to be at all worthwhile. There were considerable cases in that group who received caudal who could undoubtedly been carried along with other methods without undue hardship on the mother.

The usual post-partum complication, such as inability to void was not appreciably increased over other methods. The most frequent complaint was intense backache lasting from one half hour to four hours, whenever the caudal effects were dissipated. Headaches were very infrequent and post-anesthesia muscle paralysis, or a loss of sphincter control did not occur in any of the cases. Most of the cases were out of bed on the second post-partum day. In summary then, a total of 2044 obstetrical cases were reviewed in which caudal was employed in 1126 with an incidence of 51%. Continuous caudal anesthesia was an effective method of controlling labor pains and affording maximum relief during delivery period. Each individual administration must be given with careful observation of all rules, and no shortcuts must be permitted. There must be a careful evaluation of the patient from both a psychological and emotional standpoint, as well as an obstetrical standpoint. Any untoward effects of the anesthetic in the early minutes of the administration should preclude further administration despite demands of the patient. The administration of caudal should not be pushed and used only when the individual case warrants it. One of the chief advantages of caudal is from the operators' standpoint and great restraint must be employed less the advantage cloud his obstetrical judgment.

Continuous caudal anesthesia can be administered in smaller hospitals in selected cases, provided the operator is willing to spend considerable time in learning the technique, rigidly observing all precautions and willing to spend additional hours with the patient in labor.

It must be emphasized and re-emphasized that continuous caudal is not an average procedure and it is not necessarily needed in the average case. When and where indicated, continuous caudal is a valuable adjunct in long difficult labors, in which case it provides much needed rest without inhabiting labor, and not unimportant in the relief of pressure a worried husband or mother applies to the obstetrician to terminate a case before termination is proper.

In small hospitals caudal anesthesia is advantageous where operative procedures are contemplated rather depending upon inexperienced nurse personnel to administer ether in a haphazard manner.

From the results obtained continuous caudal anesthesia is a safe procedure when properly administered, and while it will probably never obtain status of general use, it is a very valuable adjunct to obstetrical anesthesia armamentarium.

I wish to acknowledge the aid of Velma Herington, R.N. in compiling these statistics.

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Radioactive Digitoxin

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Dr. Kelsey: The Department of Pharmacology at the University of Chicago under the direction of Dr. Eugene M. K. Geiling has long been interested in cardiotonic drugs. Since radioactive carbon became available, during the past five years, we have enlarged our pharmacologic investigation of digitoxin through tracer studies. These studies have required considerable joint effort, and credit for much of what I am presenting to you today must be given to four or five staff members and ten to fifteen graduate students who worked with us during this period. The use of a radioactive tracer technique has added an important tool to our investigative attempts since chemical and biological methods to assay digitoxin and its metabolites are neither specific nor sufficiently sensitive.

Our supply of radioactive digitoxin is produced by biosynthesis in our laboratory. The plant, Digitalis purpurea, is grown in a sealed battery jar into which is introduced carbon dioxide with the carbon being the radioactive isotope C_{14}. The outside leaves of this plant may be removed from time to time without injury to its proliferative properties. The plant will thus continue to supply radioactive leaves over a period of a year or more. Through an elaborate chemical extraction process digitoxin is removed from the dried leaf, giving about a 0.1% yield. This material has a radioactivity of approximately 500,000 counts per minute per milligram, or approximately one microcurie per 1.5 mg dose.

We were first interested in determining the fate of injected digitoxin in experimental animals. Guinea pigs and cats were given doses far in excess of digitalizing doses for humans on a relative weight basis and were sacrificed after two hours. Various organs and excretions were isolated and chemical extractions were performed to separate unchanged digitoxin from other substances having radioactivity, namely, the metabolites of digitoxin. Under these circumstances there appeared to be a practically uniform distribution of unchanged digitoxin in all organs; thus the heart did not have any higher concentration of digitoxin than did skeletal muscle. This is in marked contrast to reported studies using bio-assay methods in which digitalis-like activity was ten times greater in heart muscle than in skeletal muscle following the administration of these glycosides. Some digitoxin was found in all of the excretions, but in all instances there was a much greater excretion of metabolites than of unchanged digitoxin. Large quantities were found in the urine, gastric contents and intestinal contents, even though the drug was given intravenously. In the bile fistula dog, 84% of the radioactive material was recovered from the bile, urine and feces within 48 hours, 2/3rds of the radioactive carbon in the form of metabolites of digitoxin. After giving an intravenous dose to dogs, only 38% of the radioactiviy remains in the blood at the end of 5 minutes, 14% at the end of 10 minutes, and 1% at the end of 15 minutes.

Inasmuch as our primary interest is in the metabolism of digitoxin in humans, we were permitted by The Atomic Energy Commission to study the radioactive drug in several cardiac patients. These were prolonged and tedious experiments, requiring not only close clinical observation but also laborious extractions of the excreta. Whereas in the dog, only 1% of the injected drug remained in the blood stream at 15 minutes, in the humans 10% yet remained at the end of 30 minutes. Unchanged digitoxin was excreted in the urine in the patient most

closely studied to the extent of 1.6% of the total dose during the first 24 hours, 0.8% during the second 24 hours, 0.4% during the 3rd 24 hours, with a total of 7% during the first month. An elaborate system of extractions was used on each urine specimen, and the radioactivity of each fraction determined. Some of the radioactive metabolites were found in the fraction known to include digitoxigenin but only for the first 12 days. Several different fractions, indicating at least that many discreet metabolites, showed significant radioactivity. Greatest activity was shown in a water-soluble fraction. The chemical nature of the metabolite or metabolites contained in this fraction is unknown. Bioassay of this fraction for digitalis-like activity has not yet been done in our laboratory. The absence of radioactivity in certain of the fractions rules out the possibility that the first step in metabolism is the splitting off of a simple carbohydrate from the glycoside molecule.

Work of this type is still in its infancy but certain implications are evident from the data now available and some speculation is warranted. We do not know whether digitalis per se is cardiotonic or whether only its metabolites are active. From a comparison of bioassay and radioisotope assay of concentrations in heart and skeletal muscle after a dose of digitoxin, it would appear that all of the pharmacologically active substance is not digitoxin. Likewise the prolonged pharmacologic effect of digitoxin does not correlate with the rate of excretion of the parent drug and its metabolites. The activity might represent the retention of a small metabolic fragment or of an induced biochemical change which persists.

If the true activity is due to a metabolite of digitoxin, a logical explanation is offered for the great individual variability in response to this drug among patients. Thus a relative insensitivity to the glycoside might be due to a deficiency of an enzyme responsible for the intermediary metabolism of digitoxin, such deficiency being entirely unrelated to the heart but possibly to some other organ such as the liver.

In summary, digitoxin per se is rapidly metabolized and excreted. The nature and action of its metabolites are yet to be determined, but it seems likely that the action of digitalis is largely due to one or more of these metabolites. We are continuing to explore the subject and its many ramifications by means of radioactive tracers combined with chemical and bioassay techniques.

Dr. Robert W. Keeton, Professor of Medicine, University of Illinois: It has been noted clinically that marked diuresis in an edamatous patient poteniates the digitalis effect. Have your studies thrown any light on this problem?

Dr. Kelsey: Some of our patients have had edema prior to their dose of radioactive digitoxin. It appears that an increased urinary output does increase the excretion of digitoxin and its metabolites. The potentiating effect of diuresis might possibly be due to a stepping up of the potassium excretion noted early after the injection of digitoxin. We have not particularly investigated this aspect of the problem, however.

Dr. Louis A. Selverstone, Instructor in Medicine, University of Illinois: Clinically we feel that 100% of an oral dose of digitoxin is rapidly absorbed. Have you checked this in any of your studies?

Dr. Kelsey: No. We have given all of our doses intravenously. It would be a difficult matter to check inasmuch as the drug is so rapidly excreted from the blood into the gastrointestinal tract.

Dr. Robert L. Grissom, Assistant Professor of Medicine, University of Illinois: Have you applied this technique to the study of any other drugs?

Dr. Kelsey: We have not attempted the study of other cardiotonic glycosides, but we are applying this method of radioactive biosynthesis to certain alkaloids. We have been able to produce radioactive nicotine, morphine, atropine and veratrine. We are at present constructing a much larger growth chamber in which we can better control the light and humidity. We have been able to produce radioactive tropical toads by feeding them radioactive snails which have eaten radioactive lettuce grown by this technique. A radioactive cardiotonic agent can then be obtained from the toad.

Galactose Tolerance Test

Adolph Kraft, M.D., and William Wolf, M.D.
Chicago

The purpose of this study was to evaluate the importance and practicability of this laboratory test. The series of cases studied over a four-year period included: 35 thyrotoxic goiters, 50 cases of chronic cholecystitis and cholelithiasis, 12 cases of carcinoma of breast, 10 cases goiter carcinoma, 8 cases carcinoma of caecum and ascending colon, 6 cases carcinoma of descending colon and sigmoid, 3 cases of regional ileitis, 6 cases of extreme emotional instability (menopausal in nature). Additional non-surgical cases were also included in this group. No attempts were made to classify as to age or sex.

Interpretation Of The Galactose Tolerance Test:— Physiology.

The test known as the galactose tolerance test is not too commonly used and its importance is frequently overlooked. Harting and Grant[1] in 1933 indicated that galactose had a very low renal threshold. Lichtman[2] in 1931, and again in 1932 showed that cases of thyrotoxicosis exhibited a diminished tolerance for galactose. Althausen and Wever's[3] experimental work agreed with the above findings, but the exact physiology involved was in question. Bollman, Mann and Power[4] demonstrated that the liver metabolized galactose, and that other tissues of the body enter into the process of metabolizing galactose slightly, if at all.

Althausen, Lockhart and Soley[5] devised an oral galactose tolerance curve, and MacLagan and Rundle[6] worked independently in 1940 using this tolerance curve, as an aid in the diagnosis of hyperthyroidism. Their interpretations and opinions regarding the physiology of the galactose tolerance tests seem to differ. A number of the investigators are of the opinion that the decreased tolerance of galactose is the result of specific liver damage; and that this specific liver damage (cellular) in turn interferes with the conversion of galactose to glycogen. Others hold that the decreased galactose tolerance is possibly due to increased galactose absorption from the gastro-intestinal tract. It is generaly accepted that liver function is impaired in hyperthyroidism. Bartells[7] in 1938 demonstrated the effect of hyperthyroidism on the glycogenic function of the liver, as evidenced by the Hippuric acid excretion tests. He indicated graphically the relationship of the function (depression of glycogenic function) associated with the increased metabolic rate. He also noted that recovery of this function (as evidenced by Hippuric acid excretion) was very closely related to the return to normal of the metabolic rate. We are aware that liver function is impaired in some cases of hyperthyroidism, and that if hyperthyroidism persists, actual liver damage may result. This damage if severe may account for the death of the patient involved.

Experimental work by Russell[8] in 1938 indicated that thyroxin (in rats) administered experimentally, greatly increased the absorption of galactose from the alimentary tract.

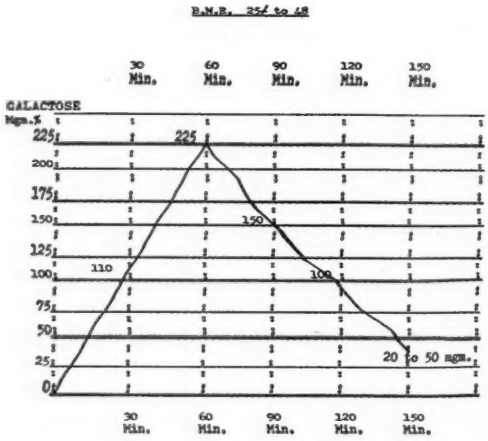
It is well known clinically that the administration of thyroid material to patients suffering with sprue aids in the absorption of galactose from the alimentary tract. It is important to determine whether the liver, or the intestine itself is responsible for the abnormal galactose tolerance curve in hyperthyroidism.

King and Atkin[9] in 1940 administered galactose intravenously, thereby eliminating the gastro-intestinal tract; thus this method constituted a liver function test. These investigators concluded by their experiments that intravenous galactose values are seldom altered except in cases exhibiting acute or extensive liver damage.

Barnes and King[10] in 1943 presented an excellent paper covering the testing of 40 patients suffering with hyperthyroidism by both the intravenous and oral methods. They were convinced following their work, that the findings of an abnormal galactose tolerance curve and index (oral), in the presence of a normal intravenous galactose tolerance level was the result of abnormally rapid absorption of the galactose from the intestine.

The authors found in a series of cases (35) suffering from thyrotoxicosis associated with hyperthyroidism that the galactose tolerance curve was elevated. The term "galactose index"

was coined by Barnes and King[10]. The galactose index is simply the total readings as graphically presented by the galactose tolerance curve at thirty (30) minutes, sixty (60) minutes, ninety (90) minutes, and one-hundred and twenty (120) minutes. The chart below is a mean average galactose. It represents the average readings obtained on thirty-five (35) cases of thyrotoxicosis with hypermetabolism possessing basal metabolic readings from 25 to 48. It was found that in 8% of the cases the galactose could be measured in the blood in concentrates of 20-50 mgm. at a one-hundred and fifty (150) minute lapse. In general, those cases having glands enlarged 2 to 3 times normal size showed a "higher" galactose index. The degree of elevation of the galactose index did not always parallel the degree of elevation displayed by the basal metabolic rate.



It was observed that those cases which had been previously medicated and gave a relatively low B.M.R. reading were in some instances responsible for high galactose index readings. The galactose index rise apparently paralleled the increase in the B.M.R. readings in those cases that had not been previously medicated. It was not uncommon to find a supposedly controlled case (medically) rendering a normal basal metabolic rate and at the same time showing an elevated galactose index. For this reason it was thought that the galactose index would prove to be useful not only in the diagnosis of thyrotoxicosis; but also in obtaining an estimate of glandular (thyroid) activity. This would be especially true in those cases which had been treated over long periods of time with various drugs. Barnes and King[10] used a galactose index reading of one-hundred and twenty (120) units as the upper limits of normal. They reviewed the one-hundred and twenty (120) cases that they regarded as normal control cases. These cases were human — non-thyrotoxic cases, and they exhibited no findings that could be construed as being associated with hyperthyroidism. Thus they arrived at the figure of one-hundred and twenty (120) units as being the upper limits of normal. They were also of the opinion that because of the wide range of normal — it would be difficult to diagnose early thyroid disease. This is also the same objection that can be raised regarding the basal metabolic rate (test). The diagnosis of early hyperthyroidism is obviously one of the clinicians greatest problems. The galactose tolerance curve — particularly its elongation following one-hundred and twenty (120) minute intervals, and the galactose index have been valuable in detecting some moderate and early cases of hyperthyroidism. It was hoped that the initial portion of the galactose tolerance curve would be abnormally effected to such a degree that it would become diagnostic of hyperthyroidism. This unfortunately is not true. The galactose tolerance curve and the galactose index determination are not always capable of rendering a diagnosis in all cases of thyrotoxicosis that are of a slight degree. Possibly comparative studies of the galactose tolerance curve and index repeated on doubtful or suspected cases, that are either an early or moderate in degree would reveal changes in the galactose tolerance curve and index values. If changes did occur, it could possibly be interpreted as some progressive change occurring within the thyroid gland.

The authors have not found the galactose tolerance curve to be abnormally effected or the galactose index to be elevated above one-hundred and twenty (120) mgm. in cases of known liver disease.

In three (3) cases of suspected liver damage, two (2) laboratory tests were used: 1. The bromsulphalein, 2. The galactose tolerance test (both intravenous and oral). Results: A. The bromsulphalein test indicated liver damage in all three cases. B. The oral galactose tolerance test and galactose index did not indicate liver damage (not elevated). C. The intravenous

galactose tolerance curve and index was slightly elevated in cases two (II) and three (III). D. At surgery — the three (3) cases proved to have liver damage. Cases one (I) and two (II) were found to have chronic cholecystitis and cholelithiasis associated with hepatitis. Hepatitis was not severe in case one (I). The third (III) case proved to be a carcinoma primary of the liver.

Study indicates that the intravenous galactose tolerance curve and galactose index is a liver function test, but its true value as a liver function test cannot be estimated as being very practical in as much as its sensitivity is apparently not very high. It would be logical to assume that in view of the findings that the galactose tolerance curve and index, (both oral and intravenous) is not a sensitive liver test — when an oral abnormal galactose tolerance curve occurs, it is probably the result of a pathological process outside of the liver itself.

Althausen, Lockhart and Soley, Maclagan, Rundell and others, interested in this field, have used this test on patients suffering from pathological conditions other than thyroid diseases. They concluded that Paget's disease, hepatic diseases and infections, acute and chronic, can alter the galactose index. It has since been demonstrated that diabetes and renal diseases do not effect the galactose tolerance curve and index (oral). Experimental work has shown that the renal threshold of galactose is not effected in hyperthyroidism. The authors have not observed any abnormalities occurring in the galactose index in cases of chronic cholecystitis without clincal evidence of hepatitis. Three (3) cases of regional ileitis, ten (10 cases of gastric carcinoma, and eight (8) cases of carcinoma of the caecum and eight (8) cases of carcinoma of the large bowel did not effect the galactose tolerance curve or index. In six (6) cases that represented extreme emotional activity (menopausal) no abnormal changes in the galactose tolerance curve and index was noted. In view of the findings to date, the probability of the small bowel as being the site of absorption of galactose, and the thyroid gland as the regulating mechanism is probably the most logical explanation. The exact physiology involved is still questionable. The theory that the metabolism of phosphates and calcium is intricately involved with the process of carbohydrate absorption is not yet too generally accepted.

CONCLUSION

1. The galactose tolerance and index are elevated in thyrotoxicosis.
2. The galactose tolerance and index do not always parallel the B.M.R.
3. The galactose tolerance and index are a definite aid in evaluating the toxicity of the gland.
4. While the galactose tolerance and index are important in establishing a diagnosis in thyroid disease — it is not always diagnostic in early or moderate cases.
5. While advanced liver pathology may alter the findings of the galactose tolerance test — it is not primarily a liver function test.
6. The thyroid gland is probably the controlling mechanism with the small bowel acting as the absorbing site.

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CASE REPORTS

Bleeding from Unsupervised Use of Dicumarol

Herbert J. Levine, M.D. and Harry E. Ryan, M.D.
Centralia

Experience with Dicumarol has demonstrated that when properly administered, it can prevent or favorably influence the course of thromboembolic disease and myocardial infarction. Dicumarol affects the blood by depressing the values of prothrombin. The mechanism whereby this drug reduces the prothrombin is not fully understood; but it may be by depressing the synthesis of prothrombin in the liver through an effect on any enzymatic process.

Dicumarol or similar anticoagulants carry the danger of bleeding, particularly when laboratory facilities for estimating prothrombin activity are not frequently employed.

The following case illustrates the nature and danger of unsupervised Dicumarol medication.

D.R., a 71 year old white female was admitted to St. Mary's Hospital, Centralia on August 17, 1950 with a history of malaise, generalized aching, weakness, sore throat, fever and painful cervical adenopathy. The past history was noncontributory except that she had a laparotomy in 1935 for intestinal obstruction. Except for a 65 year old brother with an arrested pulmonary tuberculosis, the family history was irrelevant. Physical examination at the time of admission revealed a blood pressure of 160/82; oral temperature 101.4; respirations 20; pulse 110 per minute. The patient was a well-developed and well-nourished person who did not appear acutely ill.

Physical examination revealed a diffusely infected throat, enlarged tender cervical lymph nodes, harsh breath sounds over the right and left upper lobes anteriorly, an apical grade 3 systolic murmur, a right rectus incision scar and a grade 1 rectocele and cystocele.

Laboratory studies showed hemoglobin 82%, erythrocytes 4,400,000, leukocytes 8,200 with a differential count consisting of segmented neutrophils 91% and lymphocytes 9%. The nonprotein nitrogen was 27 mg. per 100 cc. of blood and glucose 136 mgm. per 100 cc. of blood. Urinalysis was negative. The electrocardiogram revealed a left axis deviation with some myocardial damage. Roentgenogram of the chest was essentially negative. At this time there was

no evidence of petechiae or ecchymosis either in the skin or mucous membranes.

Twenty-four hours after her admission into the hospital she developed an erythematous area with numerous small vesicles upon her forehead and left periorbital region and which spread by direct extension. Eight hours later it had extended to involve the butterfly area of the face and a diagnosis of erysipelas was made. She was subsequently isolated and given supportive therapy including sulfonamide drugs and penicillin. Her recovery was uneventful until the fifth hospital day when she complained of severe soreness in the both gluteal regions and over the lateral aspects of both orbital areas. The following day she developed diffuse ecchymotic areas in both buttocks and a massive hematoma over the left orbital region surrounded by numerous pin point subcutaneos hemorrhages. The consulting opththalmologist confirmed the findings and found no evidence of retinal hemorrhage, though the patient was unable to see out of the left eye. It was then discovered that the consulting ophthalmologist had seen this patient eighteen months earlier at which time he made the diagnosis of thrombosis of a branch of the left retinal vein. He had recommended to the referring physician that the patient be given a closely supervised course of Dicumarol therapy. He again saw the patient four months later and found no evidence of thrombosis or hemorrhage of the retina.

A prothrombin determination and coagulation time were obtained on the following day which showed a prothrombin content of 24 percent and a coagulation time of 10½ minutes. She then developed massive hematomas over the right eye, both sides of the face, both arms and over the entire left breast. She was then given 500 cc. of whole blood and an equal amount of normal saline. The next day the prothrombin level rose to 74 percent content. The coagulation time was 4 minutes and 50 seconds and the platelet count 175,000. Following the administration of another 300 cc. of whole blood, the prothrombin content was 100 percent and the platelet rose to 420,000.

Subsequent inquiry brought the fact that the patient has been taking 50 mgm. of Dicumarol daily for a period of over 18 months. During that time she did not report back to her physician for clinical observations and laboratory studies to determine any blood changes. She stated that when she ran out of medicine, she would obtain refills from a drug store without a prescription.

Her subsequent hospital course was uneventful, the ecchymotic areas gradually fading. The blood work-up two days prior to her discharge from the hospital showed a prothrombin value of 97 percent, coagulation time of 3½ minutes, hemoglobin 78 percent, erythrocytes 4,180,000 and platelet count 460,000.

SUMMARY AND CONCLUSIONS

(1) A case of severe bleeding following the use of Dicumarol in a patient who had been taking the drug for 18 months without returning to her physician for clinical observation and for determinations of the prothrombin time is presented.

(2) Dicumarol is a dangerous drug when taken without close medical supervision and frequent blood prothrombin determinations by a well trained technician.

(3) Patients should be told the nature and dangers of unsupervised Dicumarol therapy.

(4) Dicumarol should not be dispensed without a new prescription being written each time by the supervising physician.

NEWS OF THE STATE

COOK

Promotions at Illinois.—Promotion of seven members of the faculty of the University of Illinois College of Medicine to the rank of full professor has been announced by Dean Stanley W. Olson. The promotions are as follows:

Dr. Geza de Takats, from clinical associate professor of surgery to clinical professor. He has been a member of the UI faculty since 1934.

Dr. M. I. Grossman, from associate professor of clinical science to professor. Dr. Grossman, now a captain in the Army Medical Corps stationed in Chicago, joined the University of Illinois in 1946 as an assistant professor.

Dr. J. E. Kempf, from associate professor of bacteriology to professor. His initial UI appointment was in 1946 as an associate professor.

Dr. Adolph Rostenberg, Jr., from associate professor of dermatology to professor. He has been a member of the faculty since 1945 when he was appointed with the rank of associate professor.

Dr. Max S. Sadove, from associate professor of surgery to professor. Dr. Sadove, who heads the division of anesthesia, received his initial University of Illinois appointment in 1947 as an assistant professor.

Dr. Walter H. Theobald, from clinical associate professor of otolaryngology to clinical professor. Dr. Theobald has served the University of Illinois for 26 years.

Dr. Willard Van Hazel, from clinical associate professor of surgery to clinical professor. Dr. Van Hazel has been associated with the Research and Educational Hospitals continuously since his appointment as a resident in ophthalmology in 1925.

Personal.—Dr. Walter C. Alvarez, Chicago, has been named editor-in-chief of Modern Medicine.—Dr. Ulysses Grant Dailey, well known Chicago surgeon, left New York by plane on October 7, 1951 for Pakistan where he will give lectures and clinics in surgery at the three medical centers of that country (Karachi, Lahore, and Dacca). The assignment under an exchange agreement between the State Department of the United States and the Pakistani government begins October 15, 1951. Dr. Dailey plans to return to his practice February 1, 1952.

University News.—The Third Annual Phi Delta Epsilon Fraternity lectureship honoring Doctors Isaac A. Abt, Julius H. Hess and John J. Sheinin was held October 22-24. Dr. William Dameshek, hematologist, New England Center Hospital, Boston, presented the following lectures: "Spleen and Hypersplenism", "Idiopathic Thrombocytopenic Purpura" and "Principles of Hemolytic Anemia." The annual banquet of the lectureship was held October 23. Guest speaker was Dr. Austin Smith, editor of the Journal of the American Medical Association.—Dr. Leonida Santamaria, assistant professor of general pathology, University of Perugia, Italy, and winner of a Fulbright Exchange Fellowship award, has arrived at the Chicago Medical School for a year of research in the department of physiology, according to an announcement by President John J. Sheinin. Dr. Santamaria will work under the direction of Dr. Piero P. Foa, professor of physiology and pharmacology on the physiology of the pancreas, and collaborate with Dr. Foa and Dr. A. R. Goldfarb, associate in the department of biochemistry, on metabolic problems involving use

of radioactive isotopes.—Dr. Karl H. Martloff, associate clinical professor of surgery, University of Oregon Medical School, gave the Charles Sumner Bacon lecture at an assembly hour, October 10, at the University of Illinois College of Medicine, on "Cancer of the Cervex Uteri: Analysis of Factors Influencing the Use of Surgery in Its Treatment."

Dr. LeRoy Named Associate Dean.—Dr. George V. LeRoy, atomic specialist and alumnus of the University of Chicago School of Medicine, was appointed associate dean of the university's division of biological sciences and associate professor of medicine, Dr. Lowell T. Coggeshall, dean of the division, announced October 1. Dr. LeRoy, who supervised the biomedical program of the Eniwetok atomic-weapons test, will assume his new duties immediately. Dr. LeRoy, a 1934 honors graduate of Chicago's medical school, was director and organizer of the radioisotope unit at the Veterans Administration Hospital, Hines, Illinois, from 1947 to 1951. He was granted leave from Hines to conduct the Eniwetok medical program for the Atomic Energy Commission, and on his return was made a consultant to the Los Alamos Scientific Laboratory, the University of California. Following World War II, Dr. LeRoy was sent to Japan by the commission to study atomic-bomb casualties. A lieutenant-colonel in the U.S. medical corps, he served as chief of the medical service at station hospitals in New Caledonia, New Hebrides, Guadalcanal, the Marianas, and with the twelfth general hospital at Northwestern University. Dr. LeRoy, before the war, was on the staff of both Northwestern and Chicago universities. The Searle research fellow and instructor in medicine at Northwestern, Dr. LeRoy conducted research in cardiovascular physiology from 1938 until 1941. From 1935 to '38, he was an assistant in medicine at the University of Chicago Clinics, doing research in hematology. A cardiac consultant to the Municipal Social Hygiene Clinic from 1938 until his entrance into military service, Dr. LeRoy has also served as an associate attending physician on the staff of St. Luke's hospital. Forty-one-years-old, Dr. LeRoy was born in Wilkinsburg, Pennsylvania. He reecived his bachelor of science degree in 1932 from the University of Pittsburgh and attended the School of Medicine at West Virginia University before transferring to the University of Chicago. Dr. LeRoy is a member of the Central Society for Clinical Research, the Chicago Heart Association, the American Federation for Clinical Research, the American Medical Association, and Phi Chi.

Society News.—Dr. Sidney Smith addressed the Orange County Medical Society in Orlando, Fla., October 17, on "Coarctation of the Aorta." This was a clinical presentation illustrated with slides and a patient. On October 24, Dr. Smith addressed the Ottawa Woman's Club in Ottawa, Ill., on "Surgical Congenital Heart Disease".—Dr. T. J. Wachowski, clinical professor in radiology, University of Illinois College of Medicine, addressed the North Suburban Branch of the Chicago Medical Society, October 8, on "Medicine in the Atomic Age." On November 12, Dr. Emerson Ward, Rochester, Minnesota, discussed "Collagen Diseases."—The following speakers addressed the Chicago Tuberculosis Society at a meeting, October 29: Dr. Linden J. Wallner, Dr. J. Robert Thompson and Dr. M. R. Lichtenstein, on "Clinical and Histopathological Study of Cortisone and ACTH in Tuberculosis: Failure to Affect Mucosal Lesions"; Dr. J. Schlichter, "Sarcoidosis Complicating Rheumatic Fever"; and Dr. A. Keinigsberg, on "Pregnancy in Pulmonary Sarcoidosis: Report of Two Cases." Dr. Otto L. Bettag delivered the president's address, "Facts and Foolishness: Tuberculosis."—"The Clinical Manifestations and Management of Intestinal Obstruction" was the title of Dr. Manuel E. Lichtenstein's presentation before the Kenosha County Medical Society, October 4.

"Emotional Reactions to Stress."—The second annual North Shore Health Resort lectures series on "Emotional Reactions to Stress" opened October 3 with a talk by Dr. Lewis L. Robbins, director, department of adult psychiatry, Menninger Foundation, Topeka, Kansas, on "Failure and Frustration." Others in the series are Dr. Francis J. Gerty, professor and head of the department of psychiatry, University of Illinois College of Medicine, November 7, "Acute Illnesses"; Dr. V. G. Urse, associate professor of neuropsychiatry, Stritch School of Medicine of Loyola University, December 5, "Chronic Illnesses"; Dr. John Spiegel, associate director, Institute for Psychosomatic and Psychiatric Research and Training of Michael Reese Hospital, January 9, "Catastrophe"; Fritz Redl, Ph.D., professor of social work, Wayne University, Detroit, February 6, "Crime"; Dr. Jules H. Masserman, associate professor of nervous and mental diseases, Northwestern University Medical School, March 5, "Death and Suicide"; Dr. H. H. Garner, chairman, department of psychiatry, Chicago Medical School, April 2, "Divorce"; Dr. Boris B. Rubenstein, research associate, Institute for Psychosomatic and Psychiatric Research and Training of Michael Reese Hospital, May 7, "Fertility and Sterility"; and Dr. Leo H. Bartemeier, president, American Psychiatric Association, Detroit, June 8, "Marriage."

Dr. Bachmeyer Honored.—Dr. Arthur C. Bachmeyer, only recently associate dean of the University of Chicago's Division of Biological Sciences, was given a dinner by the university's science division, September 25, in honor of his becoming emeritus, October 1. Vice-president R. Wendell Harrison, Dr. Lowell T. Coggeshall, dean of the division of biological sciences, and Dr. Lester R. Dragstedt, chairman of the department of surgery, were guest speakers at the dinner. The only educator to hold all three presidencies, the American Association of Medical Colleges, (1951), the American College of Hospital Administrators (1940), and of the American Hospital Association (1926), Dr. Bachmeyer has served as a medical school dean for the past 26 years. He was appointed associate dean

of the university's medical and biological division in 1935 and had previously served as dean of the College of Medicine of the University of Cincinnati. At the University of Chicago, Dr. Bachmeyer has also served as director of the university's graduate program in hospital administration since 1935, and as a member of the student-selection committee of the medical school. During the past two years, Dr. Bachmeyer has been consultant to the university's ten-million dollar medical building program. He will remain a consultant on the construction of the $4,400,000 Gilman Smith and west wing hospitals and the $2,578,650 Argonne Cancer Research Hospital, now being built on the Midway campus by the Atomic Energy Commission. The 1950 recipient of the American Hospital Association award of merit, Dr. Bachmeyer served as director of the Commission on Hospital Care. From 1944 to 1946, the commission investigated hospital needs of the nation, out of which grew the Hill-Burton act to provide federal funds for construction of hospitals in critical areas.

Grants for Research.—The United States Public Health Service recently awarded five grants to the University of Illinois in support of investigations in the College of Medicine.

Two grants support research on the 25-million volt betatron. A grant in the amount of $23,191 has been renewed for another year for a study of the effects of the electron beam on bone and cartilage which is supervised by Dr. Roger A. Harvey and Dr. G. A. Bennett.

Effects of the electron beam on the central nervous system will continue to be studied by Dr. Harvey and Dr. Percival Bailey. A $15,816 grant again has been made available for this work.

A new grant in the amount of $14,206 has been awarded by the USPHS for an investigation of the antigenic and chemical qualities of rounded masses of tissues formed in the kidney. Dr. Cecil A. Krakower is directing this research.

Renewal of a $7,110 grant also has been made for an investigation of factors involved in the growth and dissolution of kidney stones. This study is being conducted under the supervision of Dr. C. W. Vermeulen.

Another new grant, in the amount of $4,158, has been awarded to Dr. Arthur Kirschbaum for a study of the tissue susceptibility of mice to stimuli which produce cancer, resulting in development of pulmonary ovarian, and adrenal tumors.

Special Lectures.—Dr. John H. Talbott, professor of medicine, University of Buffalo School of Medicine, presented the Fifth William Allen Pusey Memorial Lecture of the Institute of Medicine of Chicago, October 22. His subject was "Experimental Observations in Acute and Chronic Gout."—The fifteenth Christian Fenger Lecture of the Institute of Medicine of Chicago and the Chicago Pathological Society will be delivered at the Palmer House, Friday, November 23, at 8:00 o'clock by Dr. Anton J. Carlson, Frank P. Hixon distinguished service professor of physiology emeritus, the University of Chicago School of Medicine, on "Some Medicosocial Problems Created by Modern Medicine."—The thirty-sixth annual dinner and meeting of the Fellows of the Institute will be held at the Furniture Club of America, Tuesday, December 4. The presidential address will be delivered by Dr. Walter H. Theobald, clinical professor of otolaryngology, University of Illinois College of Medicine.

Dinner Honors Dr. Keeton.—Dr. Robert W. Keeton, distinguished for his academic contributions to Chicago medicine for more than 40 years, was honored October 4 at a dinner at the Furniture Club of America. The occasion was prompted by his retirement as professor and head of the department of internal medicine at the University of Illinois College of Medicine, a position which he has held since 1933. In that capacity, he directed the teaching and research activities of some 225 physicians who hold faculty appointments in the department. More than 400 colleagues, former students, and friends paid tribute to Dr. Keeton at the dinner. Speakers were Dr. Anton J. Carlson, professor of physiology, emeritus, University of Chicago School of Medicine, and the following from the University of Illinois College of Medicine: Dr. Andrew C. Ivy, vice president in charge of the Chicago Professional Colleges; Provost Coleman R. Griffith; Dr. Hugh McGuigan, professor of pharmacology, emeritus; Dr. Stanley W. Olson, dean of the College of Medicine; and Dr. Arthur C. Willard, president, emeritus. Master of ceremonies for the dinner was Dr. LeRoy H. Sloan, clinical professor of internal medicine, University of Illinois College of Medicine. Highlight of the evening was the presentation of a "Festschrift" to Dr. Keeton. The commemorative volume consisted of 36 original scientific papers written by his colleagues, former students and friends. The book was published by Charles C. Thomas, Springfield. Dr. Keeton, 68, has been associated with the University of Illinois College of Medicine continuously since 1925. Prior to that time, he taught at Albany Medical College, Northwestern University, James Millikin University and also at the University of Illinois. He is the author of more than 125 major publications. His interests have concerned particularly the fields of diabetes, nausea and vomiting, gastric physiology, nutrition, obesity, liver disease, the response of the individual to environmental changes, metabolism, and studies on convalescence under widely differing conditions. Dr. Keeton is a member of many medical and scientific societies, and has served as president of the Chicago Society of Internal Medicine and the Central Interurban Club. He has been active in the affairs of the National Board of Medical Examiners. A native of West Point, Miss., Dr. Keeton received the doctor of medicine degree from Northwestern University in 1916. He previously had received undergraduate degrees from Cumberland University and the University of Chicago, and the master of science degree from the University of Chicago.

Herman Kretschmer Wills One Million Dollars to Northwestern.—Northwestern University will receive approximately one million dollars from the estate of Dr. Herman L. Kretschmer, famous Chicago urologist, who died September 23. Dr. Kretschmer's will specified that the money should be used to establish the "Lucy and Edwin Kretschmer Fund of Northwestern University Medical School" for "special studies and investigations in the field of urology." The fund will be a memorial to his wife, Lucy Barnett, who died in 1942, and to his son Edwin, who died of cancer in 1941 at the age of 15. According to the terms of Dr. Kretschmer's will, Northwestern University is made the residuary beneficiary of his estate, the amount ultimately accruing to the University being conservatively estimated as in excess of $500,000, subject to an annuity to his son, Herman L. Kretschmer, Jr. In addition the University will receive about $275,000 from Dr. Kretschmer's life insurance, and the remainder after a life estate to Dr. Kretschmer's wife, Mrs. Marion Ellen Kretschmer in a trust fund now valued at about $180,000. The executor of the estate is the City National Bank and Trust Company of Chicago. Serving as attorney for the executor is Frederick Secord, of the law firm of Gann, Secord, Stead, and McIntosh. In commenting on the gift, President J. Roscoe Miller of Northwestern, said that Dr. Kretschmer was firmly opposed to socialized medicine, believing that one of the best ways to preserve private medical practice was to provide voluntary support for our medical schools, thus keeping them free from federal control. We have always been proud of Dr. Kretschmer's attainments, since he was a graduate of our medical school. We are now deeply grateful to him for his generosity. We shall do all in our power to carry out his commission to us, — that of aiding society by attacking the unsolved problems of urology." Dr. Kretschmer graduated from Northwestern's School of Pharmacy in 1900 and from the Medical School in 1904. He was awarded an honorary doctor of science degree by Northwestern in 1944, as "a loyal alumnus whose contributions to science, teaching, and organized medicine have brought great credit to his Alma Mater." He was president of the American Medical Association, 1943-45, and president of numerous other medical organizations, including the American Association of Genito-Urinary Surgeons, the American Urological Association, the Chicago Medical Society, the American Board of Urology, Inc., and the International Urology Association. He was the author of many important scientific papers, and had been a professor of urology at Rush Medical College and at the University of Illinois. Last year he was awarded the Keyes Memorial Medal by the American Association of Genito-Urinary Surgeons in recognition of his contributions in the field of urology.

Admission to Medical School.—Though the peak load of veterans is past, competition for admission to the University of Illinois College of Medicine remains as keen as it has been for all classes since the close of World War II. Examiner and Recorder George R. Moon has reported that almost all of the 166 students selected for enrollment in the first-year class in medicine this fall have scholastic averages of 88 percent (4.0) for three years or more of pre-medical college instruction. Minimum qualification for admission to the College, as established by the UI Board of Trustees, is 84 percent (3.5). Applications were received from 752 students this year, representing the largest total since 1948. Of that number, 560 met the minimum requirements of the College. The number accepted—166—is the same as in previous years. Ten students were admitted under the program which is sponsored jointly by the Illinois Agricultural Association and the Illinois State Medical Society. This program is designed to enroll more students from rural areas in medical schools, and to return them to their native areas to practice. The University of Illinois has agreed to accept a maximum of 10 students annually under the provisions of this agreement. The number of veterans of World War II who were accepted this year—20—represents a sharp drop from previous years. This compares with 67 in 1950, 97 in 1949, 61 in 1948, 123 in 1947, and 56 in 1946. Eleven women were accepted for the 1951 class. As in recent years, all new students are residents of Illinois. Half of those selected reside in Cook County, with the remainder from downstate areas, in direct ratio with the population of the state. Because of the great number of qualified applicants from Illinois, the Committee on Admissions deemed it inadvisible to accept non-resident students, even though 43 of them were rated as qualified. Factors in the selection of first-year students, in addition to scholarship, were the results of a professional aptitude test supervised by the Association of American Medical Colleges, recommendations from science teachers and pre-medical counselors, ratings on interviews with one or more members of the faculty, and a physical examination. Mr. Moon also announced that eight transfer students have been accepted for the third year of study. The transfer students were selected from more than 30 applicants.

Memorial Service for Dr. Hassin.—A memorial service for the late Dr. George B. Hassin, professor of neurology, emeritus, at the University of Illinois College of Medicine, was held September 23. Dr. Eric Oldberg presided at the memorial service which was held at the University. Speakers were two of Dr. Hassin's friends and associates, Dr. Leo Kaplan and Dr. Percival Bailey. Dr. Hassin, who died on August 15 at the age of 79, was regarded as the pioneer neuropathologist in the United States, and the foremost neuropathologist of his time. He founded the first special research laboratory in this country. He conducted investigations in his specialty for more than 35 years, during which time he gathered what is believed to be the largest collection—some 860—of valuable pathologic brains. He discarded an equal number because of lack of space. In addition, he prepared tens of thousands of micro-

scopic slides, illustrating almost every phase of neuropathology. Dr. Hassin was one of the most active producers of important contributions in the field of neurology and neuropathology. His bibliography comprised more than 180 original items. He was the author of three editions of the textbook, "Histopathology of the Peripheral and Central Nervous Systems," which long will remain a classic in its field. He edited the Journal of Neuropathology and Clinical Neurology.

He was one of the founders of the American Association of Neuropathologists, and was its first president in 1934. He was a member of all of the important clinical and research societies in neurology and neuropathology, and held honorary membership in the French Neurological Society and the American Academy of Neurology. He served as president of the Chicago Neurological Society in 1920, and was vice-president of the American Neurological Association in 1922. Dr. Hassin received his initial appointment to the University of Illinois College of Medicine in 1909.

Maurice Lev Goes to Florida.—Dr. Maurice Lev resigned from the University of Illinois College of Medicine, effective September 1, to accept a position as pathologist and chief of research laboratories at Mt. Sinai Hospital, Miami Beach. Dr. Lev held the rank of associate professor of pathology in the College of Medicine and associate pathologist of the Research and Educational Hospitals. He has been associated with the university during the past three years, during which time he was a recipient of the Raymond B. Allen Instructorship Award.

Dedicate Library in Honor of Dr. Hektoen.—The Hektoen Memorial Library was dedicated October 3 at Norwegian American Hospital. The library is named in honor of Dr. Ludwig Hektoen, world famous pathologist who died July 6. Dr. James P. Simonds, director of laboratories at Alexian Brothers Hospital and a former student and friend of Dr. Hektoen, was the principal speaker. An oil painting of Dr. Hektoen was presented by Lionell Thornsness, representing Mrs. Hektoen, and accepted by Birger Osland, honorary chairman of the hospital's trustees.

Lectures on Psychiatry.—On October 17, Dr. Rudolph Dreikurs, professor of psychiatry, Chicago Medical School, opened a series of lectures on psychiatry at the school. His discussion was "Holism in Medicine." Others in the series are Dr. Henry W. Brosin, chairman, department of psychiatry, University of Pittsburg School of Medicine, October 24, "Significant Advances in Psychiatry"; Dr. Gudmund Magnussen, chairman, department of neurology and psychiatry, Municipal Hospital, Copenhagen, Denmark, November 7, "Industrial Psychiatry"; Dr. Kenneth Soddy, assistant director, World Federation of Mental Health, London, November 14, "Emotional Development of Childhood"; Dr. E. Eduardo Krapf, professor of medical psychology, University of Buenos Aires, Argentine, November 21, "Psychology of Old Age"; and Dr. Andre Repond, medical director, Maison de Sante de Malevoz, Monthey, Switzerland, November 28, "Psychotherapic Treatment of Mental Disorders".

Faculty Changes.—The following promotions on the faculty of the Chicago Medical School, effective October 1, have been announced by President John J. Sheinin:

Dr. Gordon Cherwitz from instructor to associate in pediatrics.

Dr. Herman L. Eisenberg from instructor to associate in medicine.

Dr. Piero P. Foa from associate professor to professor of physiology and pharmacology.

Dr. Aldo A. Luisada from assistant professor to associate professor of medicine.

Dr. David Presman from associate to assistant professor of urology.

Dr. Jay A. Smith from assistant professor to associate professor of physiology.

Dr. Isadore Spinka from associate to assistant professor of neurology.

Dr. Harry Weisberg from research associate to assistant professor of pathology.

Dr. Ruth Weyl from assistant professor to associate professor of anesthesiology.

Dr. William S. Kroger, assistant professor of gynecology.

KNOX

Society News.—The first regular monthly meeting of the Knox County Medical Society after summer recess was held September 20 in Galesburg. Speakers on the program were Mr. F. Paul Johnson, director of special education, and Mr. John H. Griffith, director of visual education, both of the staff of Galesburg High School. Their presentation was a talk and motion picture showing several types of special education for children with permanent physical handicaps as well as temporary disability.

MADISON

Society News.—Dr. Wendell G. Scott, St. Louis, discussed "Diagnosis of Cerebrovascular and Congenital Cardiac Diseases" before the Madison County Medical Society in Edwardsville, October 4.

MORGAN

Sanatorium Observes Fiftieth Anniversary.—The Norbury Sanatorium, Jacksonville, has this year observed its fiftieth anniversary. A feature of the anniversary was the publication of an illustrated brochure reviewing the history of the sanatorium.

PIKE-CALHOUN

Fifty Year Member.—Dr. A. R. Denny, who practices in Griggsville and Perry, was inducted into the membership of the Fifty Year Club of the Illinois State Medical Society, September 27, at a meeting of the Pike-Calhoun County Medical Society. Dr. Warner H. Newcomb, Jacksonville, Councilor of the Sixth District of the Illinois State Medical Society, presented Dr. Denny with the certificate and pin in honor of his completion of

fifty years of practice as a physician. Prior to opening practice in Griggsville, Dr. Denny, who graduated at the University of Illinois College of Medicine, practiced medicine in Chicago and Galesburg; in Iowa; in Alpine, California; and Quincy.

ROCK ISLAND

Society News.—The September 26 meeting of the Iowa and Illinois Central District Medical Association was addressed in Rock Island by Dr. Justin J. Cordonnier, St. Louis, on "Carcinoma of the Bladder." Dr. James R. Miller, Rock Island, made the introductions and the discussion was opened by Dr. R. D. Perkins, Moline.

WINNEBAGO

Society News.—"Civil Defense and the Medical Society Role in Its Operation" was the theme of a meeting of the Winnebago County Medical Society, October 9. The speakers were Dr. Henrietta Herbolsheimer, deputy director in charge of Civil Defense Health Services of the State of Illinois; and John Gregory, director of civil defense, Winnebago County.

Lectures for the General Practitioner.—The following physicians participated in a group of lectures for the Northern Illinois Regional Chapter of the American Academy of General Practice, in Rock Island: Dr. Robert L. Grissom, assistant professor of medicine, University of Illinois College of Medicine, "Differential Diagnosis and Management of Coronary Heart Disease"; and Dr. George A. Hellmuth, assistant clinical professor of medicine, Stritch School of Medicine of Loyola University, "Differential Diagnosis and Management of Congestive Heart Failure", October 11; Dr. Peter Gaberman, associate professor of medicine, Chicago Medical School, "The Collagen Diseases"; and Dr. Steven O. Schwartz, hematology department, Cook County Hospital, "Differential Diagnosis and Therapy of the Anemias", October 18; Dr. Robert W. Keeton, professor of medicine (emeritus), University of Illinois College of Medicine, "Psychosomatic Aspects of Aging"; and Dr. Max Samter, assistant professor of medicine, University of Illinois College of Medicine, "Allergy in General Practice", October 25.

HEALTH DEPARTMENT ACTIVITIES

Status of Tuberculosis.—The tuberculosis death rate in Illinois has been reduced by more than four-fifths since 1900, according to a state Department of Public Health report. At the beginning of the century, 140 out of every 100,000 persons died of tuberculosis in the state. In 1950 the death rate had been reduced to 25.4 per 100,000. Despite its decline, this disease still ranks as the eighth greatest cause of death in Illinois. It is second only to pneumonia among the fatal communicable diseases. Tuberculosis is a disease which hits hardest at persons in the productive years of life. Of the 2,215 deaths reported as a result of tuberculosis in the state last year, 1,512, more than two-thirds, were among the 25 to 64 age groups. In Chicago, the tuberculosis death rate more than doubles that for downstate Illinois. Last year, Chicago reported 1,447 tuberculosis deaths, or about 65 per cent of the state's total. This gave that city a rate of nearly 40 per 100,000 as against a rate of about 18 for the remainder of the state.

One Per Cent Silver Nitrate Solution Continued.—The Illinois Department of Public Health declared it will continue to approve only the one per cent silver nitrate solution for treatment of eyes of babies at birth. This statement was issued by the department in its weekly bulletin because of pressure from numerous sources advocating the use of penicillin solutions in the prevention of ophthalmia neonatorum, an infection of the eyes contracted during birth which frequently results in blindness. Illinois statutes require prophylactic treatment of the eyes of every newborn baby within an hour after birth. The law provides that "a one percent solution of silver nitrate or some other equally effective prophylactic . . . . . approved by the state Department of Public Health" be used. Explaining its continued preference of silver nitrate, the department said this agent is a time-proven effective agent, is safe to use, requires only a single application and is very stable when kept in a wax ampule. Penicillin solutions, on the other hand, are unstable, requiring refrigeration and fresh preparation each week, and multiple applications are needed. A person is also likely to develop a subsequent sensitivity to the drug when applied to the eyes, according to the department. "It readily can be seen," the statement said, "that with the shortage of nursing personnel the hazards of attempting to maintain fresh refrigerated solutions of penicillin and administering this in multiple instillations cannot be minimized." The National Society for the Prevention of Blindness has expressed reservations on the adoption of penicillin for treatment of babies' eyes. These came after the society made a careful study of research on the antibiotic treatment conducted at Johns Hopkins hospital, Cornell University medical school, the University of Iowa, the University of Tennessee medical school, Ohio State University and in Trenton, N. J. "The Illinois Department of Public Health will continue to accept one per cent silver nitrate solution as the only approved drug for the prophylaxis of ophthalmia neonatorum until it is convinced that penicillin solutions (or any other antibiotic) can be used throughout the state in both home and hospital with the same degree of safety and effectiveness as silver nitrate," it was stated.

Report on Non-Paralytic Polio Cases.—A rising ratio of reported non-paralytic polio cases in Illinois indicates a possibility that many actually may be cases of other diseases, Dr. Roland R. Cross, state director of public health disclosed recently. Since 1938 there has been general increasing incidence of polio in the state according to disease reports. However, the rate of non-paralytic cases has risen sharp-

ly. Between 1938 and 1945 non-paralytic cases averaged 28 per cent. For the period of 1946 through 1950 the average had risen to 47 per cent. An analysis of the first 832 polio reports for 1951 reveals that 53 per cent are non-paralytic. "It may well be," Dr. Cross asserted, "that admixed with true cases of non-paralytic polio, diseases of the central nervous system similar to polio and including Coxsackie infections account, at least in part, for the upward trend in reports of non-paralytic cases." The Coxsackie infection has most of the early symptoms of polio. However, it is usually mild and the symptoms "transient". In an attempt to determine whether many cases reported as polio are actually that disease or infections by other virus, the state Department of Public Health is conducting studies of cases which have occurred in Champaign county. The reported polio rate in this county has been unusually high this year. Up to Sept. 15, 106 of the state's 930 cases had been reported there. The non-paralytic rate in that county has been 91 per cent. "This leads to the possibility that the majority, if not all the cases of non-paralytic polio in that area were in fact not polio at all but an infection with Coxsackie or other similar virus," Dr. Cross reported. "Laboratory studies on a representative sample have failed to date to reveal either polio or Coxsackie viruses, though work is progressing and other central nervous system viruses remain to be isolated." Dr. Cross said that until simple laboratory tests are developed to differentiate between these diseases the health department will continue to report these as non-paralytic polio.

GENERAL

Advisory Board on Cancer Control.—Governor Adlai E. Stevenson recently announced appointment of one new member and reappointment of two mempers to the Advisory Board to the Bureau of Cancer Control of the state Department of Public Health. Newly appointed to the board is Dr. James M. Christie, surgeon for the Christie Clinic in Champaign. He replaces Dr. James P. Simonds of Chicago. Members reappointed are Dr. Charles L. Leonard, present chairman of the board who is a surgeon on the staff of St. Anthony's Hospital, Rockford, and director of the cancer clinic in that hospital, and Dr. Edwin F. Hirsch, head of the pathological laboratory of St. Luke's Hospital, Chicago. Terms of the members are for three years. Other members of the advisory board to the Bureau of Cancer Control are Dr. James P. Grier, Evanston; Dr. Robert Bowen, Springfield; Dr. R. T. Pettit, Ottawa; and Dr. Gilbert Edwards, Pinckneyville.

Meeting of Chest Physicians.—A joint meeting of the Illinois Chapter American College of Chest Physicians and postgraduate course in diseases of the chest was held September 27. Participating in the X-ray panel of the clinical pathological x-ray conference were Dr. G. C. Turner, Chicago; Dr. I. S. Hirsch, Hines; Dr. L. C. Morris, Chicago; and Dr. D. H. Trumpe, Springfield. Case presentations were made by the following: Dr. L. Levin, Pontiac, Dr. L. Cigarroa, Chicago; Dr. H. Cooper, Hines; Dr. P. Alfano, Chicago; Dr. J. Sagel, Gary; Dr. L. Collins, Edwardsville; Dr. D. Morse, Peoria; Dr. R. Leavitt, Chicago; Dr. G. Zubowicz, Manteno; Dr. L. Latz, Chicago; Dr. W. Bryan, Rockford and Dr. A. Webb, Wheaton. Dr. Charles K. Petter, president of the Illinois Chapter, was moderator; Dr. George W. Holmes, chairman, program committee. Dr. Abel Froman is secretary-treasurer.

Health Talk on TV.—Since the last issue of the ILLINOIS MEDICAL JOURNAL, the following telecasts have been presented by the Educational Committee over WGN-TV, Channel 9, on Tuesday evenings at 7 p.m.:

John A. Mart, October 2, So You've Had a Heart Attack. Standard X-Ray, Cambridge Instrument and Denoyer-Geppert Companies provided equipment for this telecast.

Arthur J. Atkinson, October 9, The Physiology of Digestion, Denoyer-Geppert and Standard X-Ray Companies cooperated in making equipment available.

John J. Brosnan, October 16, Why Take an X-Ray?

George V. Byfield and Howard J. Shaughnessy, Ph.D., chief, division of laboratories, Illinois Department of Public Health, October 23, Undulant Fever. William W. Bolton acted as moderator.

Your Doctor Speaks Over WFJL, Thursday evenings at 7.30 p.m., carried the following transcribed broadcasts under the auspices of the Educational Committee since the last issue of the JOURNAL:

John Elsen, October 4, When Your Ear Aches.
Irving Mack, October 11, Medical Emergencies.
William L. Riker, October 18, Pediatric Surgery.
Walter W. Carroll, October 25, That Lump in Your Breast.

DEATHS

LESLIE W. BLACKWOOD, Oak Park, who graduated at the General Medical College, Chicago, in 1923, died September 2, aged 58. He was examining physician for the Pennsylvania Railroad for the past 10 years.

FRANK CHAUVET, Oak Park, who graduated at the University of Illinois College of Medicine in 1907, died October 3, aged 73. He was associate professor of medicine emeritus at the University of Illinois College of Medicine.

THOMAS WALTER COGGER, Anna, who graduated at Loyola University School of Medicine in 1919, died in St. John's Hospital, St. Louis, recently, aged 57, of carcinoma of the esophagus.

C. CHURCHILL CROY, retired, formerly of Chicago, who graduated at the College of Physicians and Surgeons, Keokuk, died September 26, aged 81, in Hancock, Wisconsin.

EMILE C. DUVAL, Chicago, who graduated at Chicago Medical School in 1919, died October 10, aged 77. He was a past president of the Chicago Industrial Surgeons Society.

TALLY J. ECHERER, Chicago, who graduated at Chicago College of Medicine and Surgery in 1916, died October 9, aged 56. He was on the surgical staffs of the Francis Willard and Loretto Hospitals.

CLIFFORD W. EMONS, Alton, who graduated at St. Louis University School of Medicine in 1924, died September 13, aged 52.

EDGAR W. GARDNER, Downers Grove, formerly of Chicago, who graduated at Keokuk Medical College, College of Physicians and Surgeons, in 1906, died September 6, aged 67. He had practiced in the field of otolaryngology over 30 years.

GEORGE BORIS HASSIN, Chicago, who graduated at the University of Kazan Faculty of Medicine, Russia, in 1897, died August 15, aged 77, of cerebral hemorrhage. He was professor of neurology emeritus at the University of Illinois College of Medicine.

RICHARD LOUIS JOSEPH KEMEL, Chicago, who graduated at the Université Catholique de Louvain Faculté de Médecine, Belgium in 1902, died July 18, aged 75, of arteriosclerotic heart disease.

HERMAN LOUIS KRETSCHMER, Chicago, who graduated at Northwestern University Medical School in 1904, died September 23, aged 72, of acute ventricular failure. He became clinical professor of surgery at Rush Medical College, urologist at Presbyterian Hospital, consulting urologist to the Children's Memorial Hospital, and was on the staff of the Veterans Administration Hospital in Hines, Ill. In September, 1945, he became clinical professor of urology at the University of Illinois College of Medicine, serving until September, 1947, when he became clinical professor of urology, emeritus.

GRAHAM M. LISOR, Elgin, who graduated at Barnes Medical College, St. Louis, in 1911, died August 30, aged 63. He was a staff member of the Sherman and St. Joseph Hospitals.

MICHAEL F. McGUIRE, Chicago, who graduated at National University of Ireland, Dublin, in 1911, died September 26, aged 63. He was clinical professor of surgery at Stritch School of Medicine of Loyola University.

WILLIAM PIERCE, Chicago, who graduated at Washington University School of Medicine, St. Louis, in 1903, died July 6, aged 77, of acute coronary thrombosis.

ANDREW ROBLE, Chicago, who graduated at Northwestern University Medical School in 1924, died September 26, aged 56.

Annie White Sage, retired, Chicago, who graduated at Northwestern University Woman's Medical School in 1890, died September 17, aged 92.

MARTIN A. SCHUPMANN, Chicago, who graduated at Bennett Medical College, Chicago, in 1909, died September 20, aged 64. He was attending surgeon at Roosevelt Hospital.

HERMAN M. SCHWERER, Canton, who graduated at the University of Illinois College of Medicine in 1934, died October 13, aged 44, of coronary thrombosis. He practiced medicine first in Blandinsville, then Lewistown, and in 1942 he became associated with the Coleman Clinic in Canton. He was chairman of the Fulton County Tuberculosis Association and on the staff of the Graham Hospital of Canton as chief of the cardiology section.

OLIVER Z. STEPHENS, Stewardson, who graduated at Northwestern University Medical School in 1904, died August 17, aged 81, of myocarditis.

RICHARD KRONENBERGER, Chicago, who graduated at Northwestern University Medical School in 1948, died October 8, aged 32.

ARNOLD DWIGHT TUTTLE, retired, Chicago, who graduated at University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, in 1906, died October 6, aged 70. He had been a colonel in the U. S. Army, and medical director of United Air Lines.

JOSEPH G. WEBER, Chicago, who graduated at Bennett Medical College, Chicago, in 1915, died September 27, aged 68. He had practiced medicine in the field of otolaryngology for 34 years.

JAMES H. WILLIAMSON, Danville, who graduated at Missouri Medical College, St. Louis, in 1898, died September 9, aged 79, of carcinoma of the kidney. He was a member of the "Fifty Year Club" of the Illinois State Medical Society.

BENJAMIN MAURICE WOLIN, Chicago, who graduated at Bennett Medical College, Chicago, in 1915, died July 7, aged 61, of bronchogenic carcinoma.

PAUL H. WOSIKA, Chicago, who graduated at Northwestern University Medical School in 1931, was killed September 8 in an air crash near Crete. He was 46. He was associate professor of medicine at Chicago Medical School.

THADDEUS Z. XELOWSKI, Chicago, who graduated at the University of Illinois College of Medicine in 1903, died August 30, aged 74. He had been on the staff of St. Mary's Hospital since 1905.

JOHN HENRY YOUNT, Chicago, who graduated at Vanderbilt University School of Medicine, Nashville, in 1906, died June 6, aged 67.

"FOR THE COMMON GOOD"

Lectures Arranged Through the Educational Committee:

Adrian D. M. Kraus, Chicago, October 12, Arbor Park P.T.A., in Oak Forest, Health of the School Child.

Jeanne K. Mercer, Oak Park, November 5, Divine Infant Guild of the Tabernacle, in Westchester, Infant Feeding.

Edward W. Cannady, East St. Louis, November 8, Tenth District, Illinois State Nurses' Association, in Highland, Advances in Medicine.

Joseph Freilich, Chicago, November 16, Mary Lyon P.T.A., It's Your Health!

Miss Ann Fox, Secretary, Educational Committee, November 20, Woman's Auxiliary to the Jackson Park Branch of the Chicago Medical Society, There's No Business Like Medical Business!

Lectures Arranged Through the Scientific Service Committee:

Carlos I. Reed, Ph.D., Chicago, October 5, Conference on Nutrition, under the auspices of the Greene County Medical Society, in White Hall, Soil Conservation and Nutrition.

Sam Kruger, Hines, October 9, Rock Island County Medical Society, in Rock Island, Treatment of Atomic Casualties.

Marc Hollender, Chicago, October 11, Champaign County Medical Society, in Champaign, The Psychologic Approach to Everyday Problems in Medicine.

Edmund A. Gorvett, Chicago, October 17, Du Page County Medical Society, Elmhurst, The Management of the Gastric Ulcer.

Frank V. Theis, Chicago, October 17, Kane County Medical Society, Elgin, Peripheral Vascular Disease: Improved Outlook for Conservatism, Illustrated.

Theodore R. Hudson, Chicago, October 18, La Salle County Medical Society, Ottawa, The Surgical Treatment of Mitral Stenosis, illustrated.

Adrien Ver Brugghen, Chicago, October 26, Whiteside-Lee County Medical Societies, Rock Falls, Cranial Injuries, illustrated.

George M. Cummins, Chicago, November 8, Henry County Medical Society, in Kewanee, Some Cardiovascular Aspects of the Aging.

William L. Riker, Chicago, November 8, Champaign County Medical Society, Champaign, Correction of Congenital Anomalies.

Louis Feldman, Chicago, November 15, La Salle County Medical Society, La Salle, Modern Treatment of Subacute Bacterial Endocarditis.

George A. Hellmuth, Chicago, November 15, Stock Yards Branch of the Chicago Medical Society, Evangelical Hospital, Clinical Correlation of Electrocardiography in Practice, illustrated.

Charles J. Smith, Chicago, November 20, Iroquois County Medical Society, Watseka, Anesthetics and Analgesics in Obstetrics, illustrated.

Willard O. Thompson, Chicago, November 21, Du Page County Medical Society, Elmhurst, Clinical Applications of Sex Hormones, illustrated.

Irwin R. Callen, Chicago, November 23, McDonough County Medical Society, Macomb, Coronary Disease.

LIFE ENDANGERING HEMORRHAGE

There are no advances in the surgical management of peptic ulcers which are bleeding seriously. It is true that experienced surgeons working in institutions which provide excellent anesthesia and enthusiastic and mature preoperative and postoperative care have progressively lower mortality rates in these cases each year. However, it is still impossible to make scientific decisions on a certain number of cases with life endangering hematomesis because the source of the bleeding is in doubt and because in more than 90 per cent of the cases, the bleeding will stop without surgical intervention. The literature is difficult to evaluate because of the varying criteria of "severe" hemorrhage. Since there are no definite criteria to separate those cases in which bleeding will stop from those cases in which it will not stop and since the patient's chances of surviving operation will depend upon the facilities at hand, every case will have to be individually evaluated. *Excerpt: The Surgery of Peptic Ulcer, B. L. Sinner, M.D., St. Louis. J. Missouri M.A., July,* 1951.

IN NASOPHARYNGITIS HERE IS *PROMPT RELIEF*

BACITRACIN-NASAL

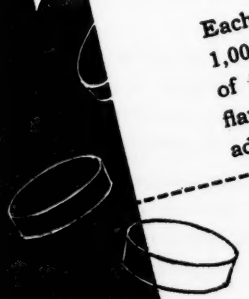
Bacitracin-Nasal provides 250 units of bacitracin per cc. and 0.25% of *dl*-desoxyephedrine hydrochloride in a buffered, isotonic, rose-scented solution. In addition to the effective local antibiotic action of bacitracin, it also provides prompt relief by the vasoconstriction produced by *dl*-desoxyephedrine hydrochloride. Bacitracin is virtually nonallergenic and, further, no inhibitor similar in action to penicillinase has been demonstrated.* Bacitracin-Nasal may be administered by dropper or nebulizing spray to relieve congestion quickly and to shorten the duration of infection in nasopharyngitis.

*Prigal, S. J., and Furman, M. L.: *The Use of Bacitracin, a New Antibiotic, in Aerosol Form; Preliminary Observations*, Ann. Allergy 7:662 (Sept.-Oct.) 1949.

BACITRACIN TROCHES
WITH BENZOCAINE

Each Bacitracin Troche combines the antibiotic action of 1,000 units of bacitracin with the local anesthetic effect of 5 mg. of benzocaine. Bacitracin Troches are candy-flavored. Their pleasant taste and soothing effect readily adapts them for collateral treatment in nasopharyngitis.

SUPPLY: Bacitracin-Nasal is supplied as a dry powder, to be diluted and dispensed by the pharmacist in a ½ ounce bottle provided for this purpose. Bacitracin Troches are supplied in bottles of 25. Refrigeration is not required.



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PHYSICAL MEDICINE ABSTRACTS

THE PREVENTION OF THROMBOEMBOLISM

Leo Loewe, M.D., Louis Berger, M.D., and Richard P. Lasser, M.D. In ANGIOLOGY, 2:1:26, February 1951.

This communication is intended to discuss the problems of thromboembolic disease in general; to review, critically, the various measures now employed in dealing with the disease and to recount our experience with a comprehensive prophylactic program. This will serve to emphasize the importance of a prophylactic approach rather than a purely therapeutic one and will demonstrate that a large scale prophylactic effort is both fruitful and feasible.

Several non-specific measures in the prevention of venous thromboembolic disease are, generally, in surgical patients. One of these is early ambulation. This means not merely dangling but actually getting the patient out of bed. The heels, only, are to be supported by a soft foot stool. The calves should not be in contact with anything; in other words, there should be an avoidance of pressure on the calf veins. Patients should actually be ambulated on the day of operation and preferably immediately or as soon after the operation as possible. This can be done with but few exceptions. It is an erroneous idea that patients who are merely gotten out of bed and permitted to sit for an undetermined period of time are ambulated. This, in point of fact, is worse than permitting the patient to be in bed throughout. Early ambulation is associated with a reduction in the incidence of thromboembolic disease from 53 to 18 per cent and especially is the incidence of pulmonary embolism reduced. These statistics may be, of course, somewhat overenthusiastic in that many of the reported series do not take into consideration the delayed type of thromboembolic disease which makes its appearance after the patient's discharge from the hospital. We know of instances of this type, and are convinced that others have encountered the same. While early ambulation alone does not solve the problem in its entirety, the fact, nevertheless, remains that both the morbidity and the mortality are decidedly reduced.

Elevation of the legs and leg exercises are helpful but the beneficial effects are not too significant. Exercises in bed are nevertheless recommended.

Avoidance of compression of calf veins, especially in elderly subjects, is an important detail. This applies to the procedures in the operating room as well as postoperatively.

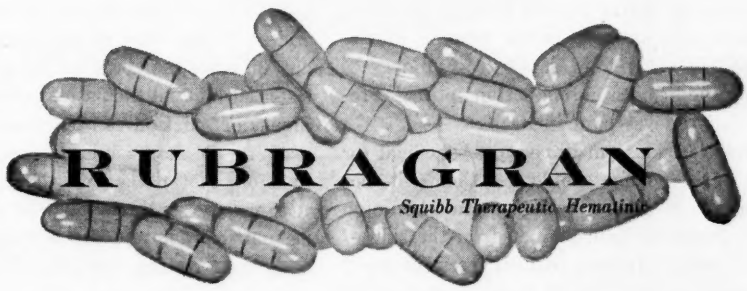
In patients with varicose veins, elastic stockings and other pressure dressings are of some value. However, severe compression of varicose veins in elderly subjects is contra-indicated.

Such general measures can be carried out regularly except in the aged, the desperately ill, those with advanced malignancy and the bed-fast.

(*Continued on page* 68)

NEW!

an oral therapeutic hematinic



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RUBRAGRAN FORMULA	1 capsule supplies	1 capsule t.i.d. supplies
Vitamin B_{12}	25 mcgm.	75 mcgm.
Folic Acid	1.67 mg.	5 mg.
Ascorbic Acid	100 mg.	300 mg.
Iron (elemental)	67 mg.	200 mg.
(as ferrous sulfate exsic.)	230 mg.	690 mg.
Desiccated Liver	100 mg.	300 mg.

Bottles of 100 and 500

Because of the serious nature of the disease, true addisonian pernicious anemia should not be treated with oral preparations. Parenteral Rubramin or Liver Injection should be used.

"RUBRAGRAN" IS A TRADEMARK OF E. R. SQUIBB & SONS

SQUIBB

Physical Medicine (Continued)

TENDINITIS AND SUBACROMIAL BURSITIS

K. Armand Fischer, M.D., and Kenton D. Leatherman, M.D., Louisville, Ky. In THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION, 49:7:296, July 1951.

Conservative treatment usually suffices in the ordinary case of acute tendinitis and subacromial bursitis. Sedation is necessary because most patients have considerable pain and loss of sleep. The usual patient keeps his arm adducted to his side in order to splint it, and a measure which will relieve pain quickly is the placing of the arm on pillows away from the chest at 90 degrees or placing the arm on an abduction splint. Frequently this relieves pain in itself.

Hot moist packs seem to be most beneficial for relief of pain and one should use them whether a patient is in bed or wearing an abduction splint, or keeps his arm abducted on the side of the bed or table. In very painful cases hot moist packs should be kept on 24 hours a day except when certain exercises are taken. In ambulatory cases that have mild pain novocaine injections of one or two per cent solution into the region of the bursa will temporarily relieve this pain and then circumduction and pendulum exercises can be started in order to bring about a complete range of motion in the shoulder. These exercises should be done hourly.

Aspiration and needling of a calcium deposit after injection of novocaine is another popular method of treatment. After such an irrigation a shoulder manipulation should be done and the patient given instructions in circumduction exercises. This type of treatment is best carried out in a hospital because the pain returns after the needling and the patient should be near where plenty of sedation can be given. Cold packs are used for 24 hours and this should be followed by moist hot packs and the exercising routine. An exercise routine should be used in every case no matter what type of treatment has been used, and when resting, the arm should be placed in abduction, either on a splint or pillow. Pendu-

(*Continued on page* 70)

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1... relaxation of smooth muscle spasm especially of the genito-urinary and gastro-intestinal tracts . . . . . 2... in migraine and related headaches.

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2. Nethamine® Hydrochloride	0.1 Gm.
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lum exercises are easy to do and they are not contraindicated in any type of bursitis. After a few trials then the patient can do circumduction exercises and one should instruct them that the more they do them the sooner they will lose the pain. In the sitting position we try to have them put their hand behind their head to improve external rotation of the shoulder, and when standing they should place their hand behind their back for internal rotation of the arm.

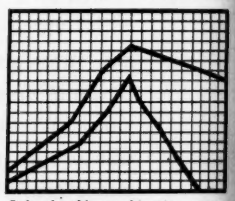
X-ray therapy is beneficial to acute cases and some subacute cases. So often with the use of X-ray therapy the patient is not given exercises or hot packs. It is very necessary to use some type of heat and exercises following X-ray therapy or stiffness of the shoulder may ensue in spite of relief of pain. The acute symptoms of bursitis usually pass away in from 5 to 7 days and even after that the exercise routine must be kept up and the arm be abducted on a pillow while in bed. It usually is necessary to continue the circumduction exercises, placing the hand behind their head and behind their back for a period of several months time. It is well after the first week to use some dry heat in the form of infrared ray on the shoulder before exercising when possible. Until a normal range of motion has been established in the shoulder, exercises and even stretching of the tight shoulder is necessary.

Surgery is indicated in some cases of acute tendinitis with subacromial bursitis. At the time of surgery the shoulder is manipulated in all directions, and following the operation the arm is placed in an abducted position. Circumduction exercises and pendulum exercises are started within 24 hours and the patient is out of bed to do this. He is advised to sit beside his bed, keep his arm abducted on pillows and then put his hand behind his head when sitting down, and on standing to put his hand behind his back so that internal and external rotation can be promoted. Patients with subacute and chronic symptoms of bursitis extending over a period of 6 to 8 weeks

(*Continued on page 72*)

IN RHEUMATIC FEVER • RHEUMATOID ARTHRITIS • OSTEO-ARTHRITIS • GOUT • FIBROSITIS

Pabirin *the original* **SODIUM FREE** *Salicylate-Paba Combination*



Paba in this combination causes a salicylate blood level increase of two to five.

FOR EFFECTIVE SALICYLATE BLOOD LEVELS

For a fortified salicylate therapy, free of certain undesirable effects of a salicylate alone, para-aminobenzoic acid now has been combined with acetylsalicylic acid (aspirin). Pabirin, Dorsey, is such a mixture.

Pabirin causes a salicylate blood level increase of two to five, and in rheumatic fever, produces an effective level of 35 mg. per 100 cc. For this result, less of the Pabirin mixture is required than of a single salicylate. *In cases where sodium restriction is indicated, Pabirin is favored over other salicylate combinations.*

The most important factor in Pabirin's maintenance of salicylate blood levels, probably, is *the synergistic action of para-aminobenzoic acid upon the salicylate.* By replacing sodium salicylate with aspirin, and including para-aminobenzoic acid, which tends to produce an acid urine, Pabirin *decreases the urinary output of salicylate. Thus higher blood levels of salicylate are assured with Pabirin than with a salicylate alone.*

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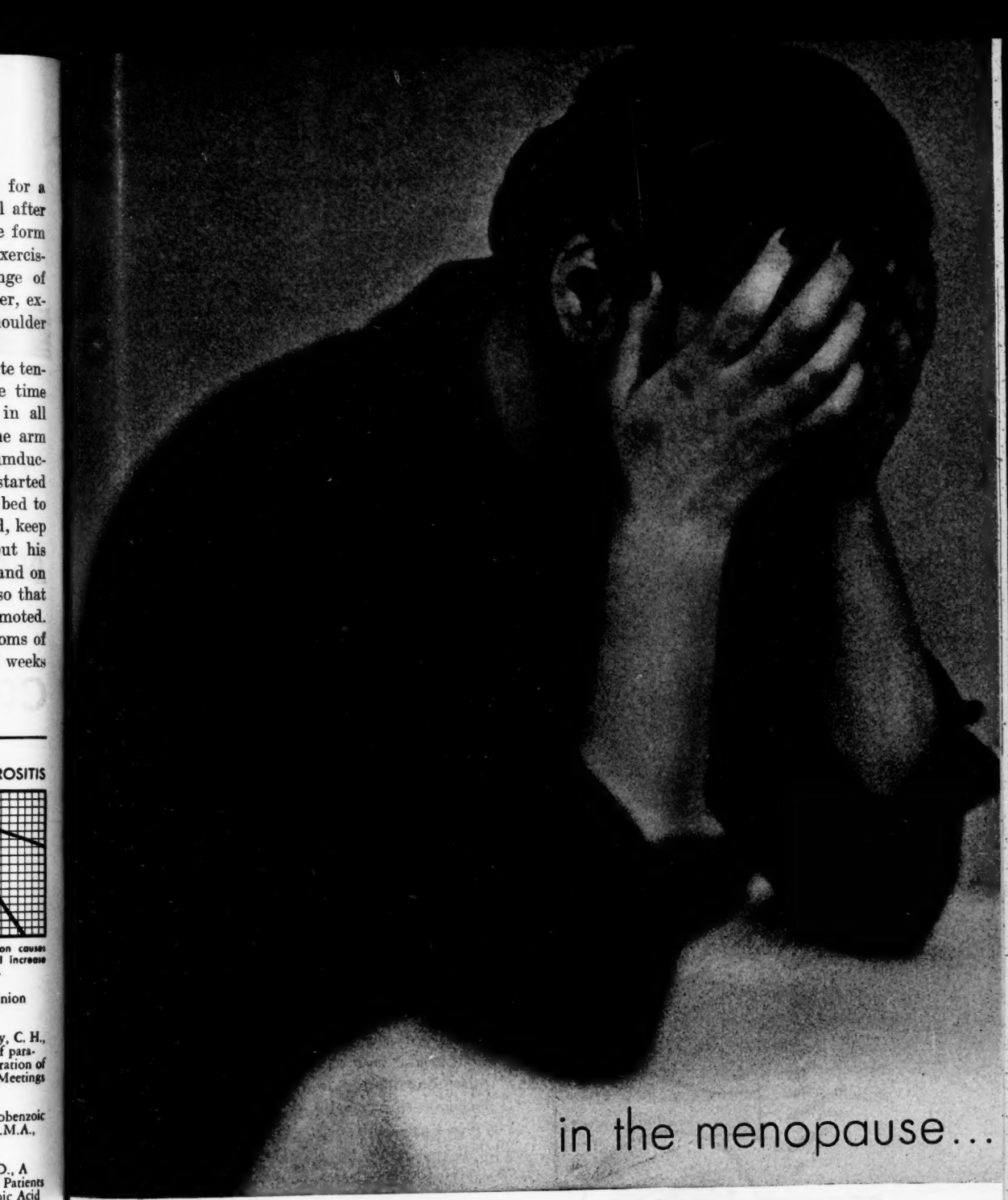

"all patients described a sense of well-being [with 'Premarin']."

Neustaedter, T.: Am. J. Obst. & Gynec. 46:530 (Oct.) 1943

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highly effective · orally active · well tolerated · imparts a feeling of well-being

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Physical Medicine (Continued)

usually have their arms immobilized to their side and thus present a more difficult problem to treat. At times they are very miserable persons due to pain and sometimes addiction to opiates is present when the orthopedist sees the patient. Usually at this period they can not tolerate much pain and they have to be handled gently. This type of patient should be near where he can receive physical therapy twice a day, or he should enter a hospital for treatment. Then infra-red heat or hot moist packs can be used to relieve pain so that exercises and stretching can be started. One must explain to these patients what has taken place in their shoulder with resulting adhesions and tightness in the tendons and muscles around the shoulder. They must be taught how to keep their arm away from their side on pillows or on an abduction splint. Pendulum exercises are begun gently at first and then more energetically later. Wall climbing and other exercises are instituted and by massage and gentle stretching over several weeks time the shoulder motion can be increased and pain will gradually be gone. As the shoulder loosens the patient becomes more free of pain. At times they have pains in the side of the neck radiating down the arm and forearm into the little finger.

Manipulation of shoulders in subacute and chronic bursitis cases under an anesthetic has been used at times. A complete range of motion is sought by stretching the shoulder in several directions. Following the manipulation the patient has a great amount of pain, and an ice bag must be placed on the shoulder and the arm kept in an abducted position with traction on the arm. As soon as possible the patient must be assisted out of bed and exercises started. Then the patient can sit beside the bed and place the arm on pillows on the bed in an abducted position. At hourly periods pendulum and circumduction exercises are continued. Hot packs or infra-red heat is used on the shoulder preliminary to the exercises for relief of pain. The exercises must be kept up energetically otherwise the shoulder stiffens just like it was before the manipulation.

Treatment of these hospital patients must be continued for several months following the manipulation. They should be in the hands of a competent physical therapist and the physician

(*Continued on page* 74)

When the diagnosis is Pyelitis

First: consider

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to establish and maintain urinary antisepsis...

To establish and maintain urinary antisepsis, MANDELAMINE* is many times preferred because it is quickly effective against the organisms most commonly encountered in urinary-tract infections. Its exceptional freedom from untoward reactions and its wide range of antibacterial activity commend it for use as soon as the diagnosis has been made.

Urinary antisepsis is often achieved in uncomplicated pyelitis in as few as three days. Speedy recovery is thus secured in many cases without necessitating higher-cost therapy.

Other indications for MANDELAMINE are cystitis, prostatitis, pyelonephritis, nonspecific urethritis, and infections associated with urinary calculi or neurogenic bladder; also valuable for pre- and postoperative prophylaxis in urologic surgery.

Renal insufficiency is the only major contraindication to MANDELAMINE therapy.

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should see them almost daily to impress upon them the necessity of hourly exercises and a heat routine at home. The more chronic patients will have to exercise sometimes for a period of 6 to 12 months before a complete range of motion has returned and the pain in the neck, hand and arm is relieved.

ADMINISTRATIVE PROBLEMS IN A POLIO UNIT

Sister M. Assumpta, O.S.B., Administrator, Hibbing General Hospital, Hibbing, Minn. In HOSPITAL PROGRESS, 32:6:170, June 1951.

In considering facilities for convalescent care, we should discuss the use of physical therapy facilities such as exercise tables, practice mats, parallel bars, training steps, crutches or walking sticks, wall mirrors, etc. In other words, an administrative problem of the hospital would be to provide the space for this equipment, allowing ample room for its appropriate use. Some hospitals might make provision for the Hubbard tank or other type of treatment pools, although these are not always necessary. An ordinary bathtub could be used in the convalescent ward.

One physical therapist usually can take care of about six acutely ill polio patients but there is wide latitude depending upon the severity of involvement. If there is not too much involvement, a physical therapist will be able to take care of more patients during the acute stage. During convalescence, a physical therapist can take care of approximately 12-15 patients in a ward. One physical therapist can take care of 15 to 20 out-patients daily, depending upon the amount of involvement they have. Obviously, when complete muscle evaluations are done, the number will be less. These figures are necessarily flexible and, unfortunately, all too often a heavy case load increases the burden on any individual therapist beyond the desired ratio.

Under therapeutic services, we should discuss

(*Continued on page* 76)

More than just estrogen therapy...

...THIS COMBINATION HELPS RESTORE ENERGY, FITNESS AND A SENSE OF WELL-BEING

SEStramin (PATCH)

—goes beyond the provision of estrogen sufficiency—it treats also the patient's nutritional state by providing a balanced estrogen-vitamin formula.

Sestramin is indicated in natural and surgical menopause, functional amenorrhea and dysmenorrhea, suppression of lactation.

ORAL THERAPY—in tablet form, Sestramin is preferred by many patients, especially those who fear injections.

NO UNTOWARD SIDE-EFFECTS—Sestramin is better tolerated than synthetics.

Supplied: bottles of 20, 100 and 500 tablets.

TWO STRENGTHS

SEStramin 10M—Conjugated estrogens equivalent to oral activity of Sodium Estrone Sulfate 1.25 mg.

SEStramin 5M—Conjugated estrogens equivalent to oral activity of Sodium Estrone Sulfate 0.625 mg.

Formulae: Brewers' yeast, 100 mg.; Thiamine hydrochloride, 3 mg.; Riboflavin, 2 mg.; Niacinamide, 10 mg.; Pyridoxine hydrochloride, 1 mg.; Calcium pantothenate, 5 mg.; Ascorbic acid (vitamin C), 25 mg.; Vitamin D, 500 I.U.

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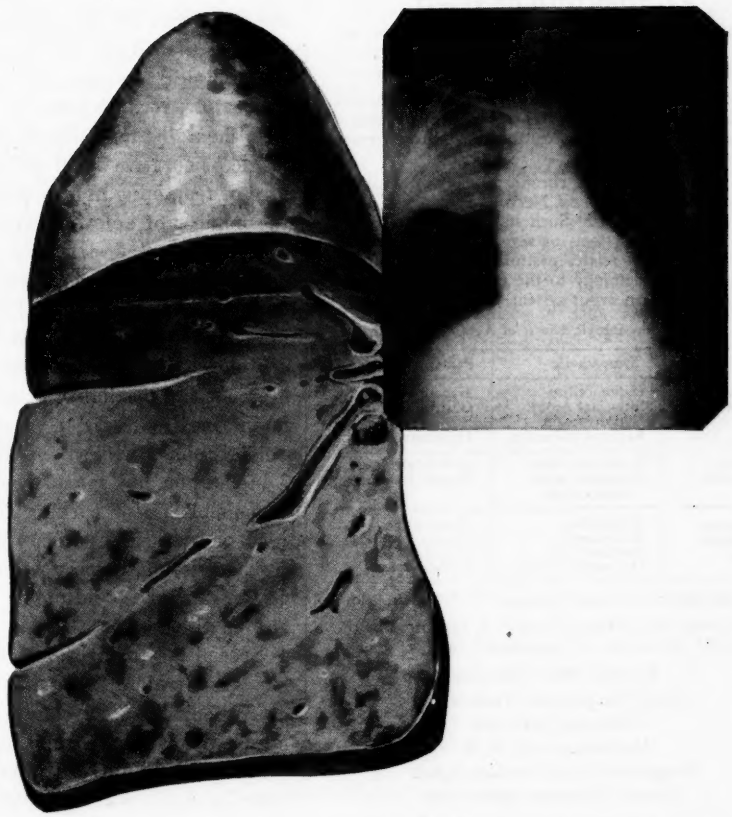

in lobar pneumonia: The prompt response to Terramycin therapy in lobar pneumonia is consistent with results obtained in primary atypical pneumonia, bronchopneumonia and many other infections of the respiratory tract. In a typical series of pediatric cases, Terramycin-treated, "temperatures returned to normal in 24 to 48 hours after therapy was begun. The clinical appearance of marked improvement took place during the same period."

Potterfield, T. G., and Starkweather, G. A.: J. Philadelphia General Hosp. 2:6 (Jan.) 1951

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Relationship of Stress to Autonomic Lability

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance. [1,2] Such states may involve any one of the organ systems or several at one time. [1,3] The outline below relates gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	**Parasympathetic**
Gastro-intestinal	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifesta-tions	Palpitation Tachycardia Elevated B. P. Dry mouth—throat	Heartburn Nausea-vomiting Low B. P. Colonic spasm

Data here tabulated is from references [3,4,5,6,7], given below.

Diagnosis of functional disorder is supported by the following indications of autonomic lability:

Variable Blood Pressure
Body Temperature Variations
Changing pulse rate
Deviations in B. M. R.
Exaggerated Cold Pressure Reflex
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relief of symptoms by drug therapy (so making the patient more amenable to psychotherapy); 2) psychotherapeutic guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

Clinicians who have studied these disorders, including those of the menopause, report that good therapeutic results are produced by combined adrenergic (ergotamine) and cholinergic blockade (Bellafoline) with central sedation (phenobarbital) [8,9,10]. A convenient preparation of this nature is available in the form of **Bellergal Tablets.** Functional disorders are long-term therapeutic problems; therefore, drug treatment by the following method is recommended: 5 or 6 tabs. per day for the 1st week; then gradually reduce to the smallest dose effective in maintaining the patient symptom free (average: 3 tabs. daily). Interrupt for 1 week out of every month to assess results.

1. Ebaugh, F.: Postgrad. Med. *4:* 208, 1948. 2. Wilbur, D.: J.A.M.A. *141:* 1199, 1949. 3. Williams, E. and Carmichael, C.: J. Nat'l. Med. Assoc. *42:* 32, 1950. 4. Goodman, L. and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Co., 1941. 5. Katz, L. et al: Ann. Int. Med. *27:* 261, 1947. 6. Weiss, E. et al: Am. J. Psychiat. *107:* 264, 1950. 7. Alvarez, W.: Chicago Med. Soc. Bulletin, 581, 1950. 8. Rakoff, A.: A Course in Practical Therapeutics, Williams and Wilkins, 1948. 9. Karnosh, L. and Zucker, E.: A Handbook of Psychiatry, C. V. Mosby Co., 1945. 10. Harris, L.: Canad. M.A.J. *58:* 251, 1948.

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Physical Medicine (Continued)

the treatment of the patient during the acute phase of the illness with the proper use of nursing, physical therapy, hot packs, warm pools, respirators, rocking bed, etc.

It should be remembered that there is nothing magic or curative about the hot packs. The degree of remaining muscle paralysis depends upon the number of anterior horn cells (motor nerve cells) that are destroyed by this virus. It is acknowledged that moist heat, either in the form of hot packs or warm pool treatments, does relieve muscle pain and when this is accompanied or followed by gently passive and later active exercises, the flexibility of muscles and joints is maintained more easily. Naturally, heat should not be applied while the patient is still running a high fever, but should be started as promptly as possible. Hot packing should be cautiously used on weakened patients during hot weather.

The roles of the occupational therapist, medical social worker, and public health nurse should also be discussed.

Special treatment should be given to the bulbar type patient, stressing pastural drainage, aspiration, etc. All convalescent patients with muscle involvement should have functional training and rehabilitative training. This should be done by a physical therapist in the out-patient department or in the hospital's therapy department.

FLEXION TREATMENT OF LOW BACK PAIN

William L. Waldrop, M.D., and Howard B. Shorbe, M.D., F.A.C.S., Oklahoma City, Okla.

In JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION, 44:4:138, April 1951.

Treatment of low back pain is a matter of management rather than that of specific treatment. The principle of the treatment by the flexion method is to correct the lordosis and maintain the correction. Its proper use requires diligent cooperation of the patient and also constant attention by the physician. The patient must understand his condition and the treatment: one of the most important parts of the treatment is the teaching of the patient. An articulated skeleton or x-rays are very valuable

(*Continued on page* 78)

The *Gentarth* formula constitutes a new, direct approach for relief of pain and reduction of swelling and joint inflammation in rheumatoid arthritis. *Gentarth* is non-hormonal in action.

Sodium gentisate has been found to produce favorable results in both rheumatoid arthritis and acute rheumatic fever,[2] possibly because of its inhibiting effect on the hyaluronidase in synovial cavities.[3,4] Inclusion of salicylate, as in the *Gentarth* formula, provides additional analgesic action and enhances effectiveness.

Gentarth tablets also contain succinic acid to protect against increase in prothrombin time—a necessary precaution in prolonged salicylate therapy.

Each tablet contains:

Sodium Gentisate	100 mg.
Raysal . . . . . *(representing 43% Salicylic Acid and 3% Iodine in a Calcium-Sodium Phosphate buffer salt combination)*	325 mg.
Succinic Acid	130 mg.

Dosage: 2 to 4 tablets 3 or 4 times daily (after meals and before bedtime).

Supplied in bottles of 100, 500 and 1,000. Available through all ethical pharmacies.

1. *Boyd, L.J., Lombardi, A.A., and Svigals, C.: New York Med. College Bull.*, 13:91, 1950.
2. *Meyer, K. and Ragan, C.: Mod. Concepts of Card. Disp.*, 17:2, 1948.
3. *Quick, A.J.: J. Biol. Chem.*, 101:475, 1933.
4. *Guerra, J.: J. Pharm. Exper. Ther.*, 87:1943, 1946.

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to restore
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"The best results were obtained in patients . . . treated with sodium gentisate and salicylate"[1]

Tablets

GENTARTH

The original preparation containing sodium gentisate, an inhibitor of the spreading factor enzyme, hyaluronidase

for this purpose. The program utilizes various steps which are used or left out as suits the needs of the individual patient. The entire treatment is very natural for the patient. Observation of any audience shows many people flexing the lumbar spine by sitting with legs crossed, their feet up, or their knees resting on the back of the seat in front of them. Brass rails were placed in front of bars to permit flexion of the lumbar spine during prolonged standing.

Rest is the most important of all. Severe cases are placed on complete bed rest in a double Gatch bed with the thighs flexed constantly at 45 degrees and the head of the bed elevated for comfort. The buttocks lay on the incline with the thighs and the lumbar spine at the depth of the "V" made by the bed. Knees may be flexed as comfortable.

Traction is applied by means of a canvas girdle about the sacral and trochanteric regions. Medication is used as necessary.

Some form of heat is used routinely. Massage is of limited early value, but may be more beneficial later.

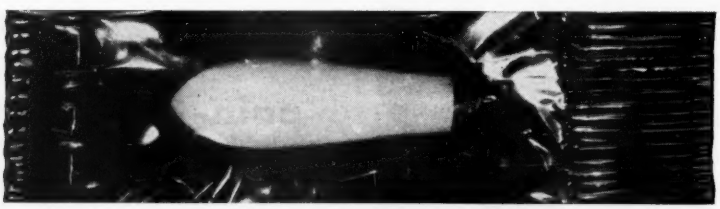
In some cases a flexion cast is beneficial, but it must be applied correctly and fit well.

A brace is not required commonly.

Exercises are designed to stretch the tight back extensors and hip flexors, and to strengthen the abdominals and gluteals. The latter two groups are the flexors of the pelvis. To strengthen the abdominals the patient lies flat on his back and draws the thighs up on the chest, one at a time and then both together. This also stretches the back muscles. To stretch the hamstrings he uses the same position except that the knee is extended with the leg straight upward. To strengthen the gluteals the patient lies flat on his back with hips and knees flexed, and lifts the hips while holding the lumbar spine down flat.

The most important part of the entire treatment is teaching the patient actively to correct his poor posture and to prevent positions and activities which cause him poor posture. The

(Continued on page 82)



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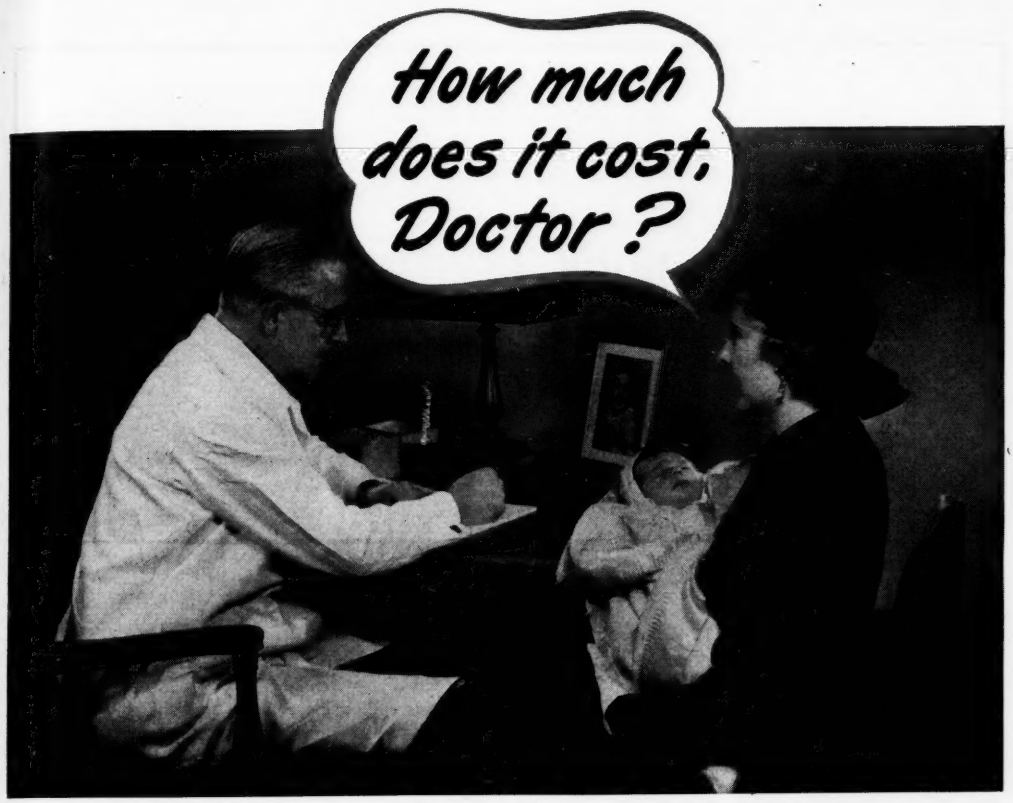
Physical Medicine (Continued)

basic tenets of the method require the patient to correct his bad postural habits and then to maintain good posture. If he resumes his old lordotic posture, his back pain will return. He is taught to sit with the hips "tucked under" and with the knees higher than the hips, and in driving to keep the seat forward to attain this position. He sleeps on a firm bed, not on his abdomen, but with the knees flexed lying on his side, or if on his back with a pillow under the knees. He is taught never to lift weights above his elbows, and to rest one foot on a stool when standing. He always keeps his low back flat. At home he leans against a wall or door attempting to touch the entire lumbar spine. A very useful home treatment is to have the patient lie on his back with the hips and knees each flexed 90 degrees and the calves in the seat of a chair of suitable height. Much relief is obtained also by pulling the thighs up on the chest with the hands, while lying on the back, thus stretching the painful cramping muscles.

Many years have passed since the conception that lordosis as such represents an unstable mechanical weakness in a spine. The medical progression has been slow to give up the old methods of treating backache in extension. Correction of sway back is mandatory in low back pain. Our experience in the past four years has given convincing evidence that the flexion treatment will relieve a high percentage of low back pain.

Mechanical and antibiotic therapy . . . are not the treatment of pulmonary tuberculosis. Rest is the treatment. Mechanical therapy and the antibiotic drugs supplement rest, but they do not supplant it. Calif. Med., Edward W. Hayes, M.D., December, 1950.

Health is today recognized as more than the absence of disease, and the field of health is not the exclusive concern of any one profession or specialty, whether that be medicine, social work, education, government or diplomacy. Health is an individual and — more importantly in the last half of the twentieth century — a social entity. Custom, usage and necessity have resulted in an undue worldwide preoccupation with disease. Personal health, national health and world health in terms of a balanced global ecology are the great challenge of the second millennium of the Christian Era. Edit., New England J. Med., May 17, 1951.



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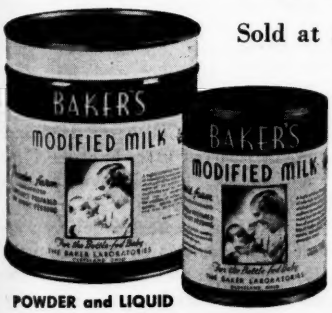

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BOOK REVIEWS

ROENTGEN MANIFESTATIONS OF PANCREATIC DISEASE, Maxwell Hervert Poppel, M.D., F.A.C.R., Charles C. Thomas, Publisher, Springfield, Illinois. A volume of 389 pages, 12 chapters, a complete reference and index. It is liberally illustrated.

The anatomy of the pancreas and the duodenum with most important variants is presented with their relationship to other surrounding structures.

Methods of x-ray examination for the pancreas are well presented with limitations of these examinations given as well as their specific values. X-ray anatomy is discussed and compared to dissecting room anatomy with subsequent anatomical alteration from an x-ray standpoint given according to specific diseases.

Complete pathologic discussion is presented of all inclusive diseases of the pancreas with effect on and extension to surrounding structures. A most interesting and complete differential diagnosis is included with the negative findings discussed as well as the positive variety.

The work closes with presentation of recent statistics pertinent to disease of the pancreas of considerable importance.

From the title of this work one might get the impression that it was written for radiologists. However its vast scope makes it a valuable reference for any one in the medical field who encounters any form of pancreatic disease.

J. H. G.

AN ATLAS OF ANATOMY by J. C. Boileau Grant, M.C., M.B., Ch.B., F.R.C.S. (Edin) Professor of Anatomy, University of Toronto — Third Edition — Cloth $12.00. The Williams & Wilkins Company, Baltimore, 1951.

This book is now being presented as the third edition. The first edition was reprinted twice as was likewise the second edition. The popularity of this work is thus actually proven.

In this edition more than 70 of the illustrations are new and 28 of the old illustrations have been either improved or replaced and to some color has been added.

The printing is of good size and the format of the book makes it easily referred to for any item.

The diagrammatic illustrations of Dr. Grant's work continue as previously to be a source of great satisfaction. This is an Atlas of Anatomy of value for the student or for the practicing physician — allowing plenty of material for definite study of detail; or for a quick refresher as to structure, relationship and relative positions.

An anatomy to adorn the facilities of any library.

C. P. B.

ANATOMY IN SURGERY — Philip Thorek, M. D., F.A.C.S., F.I.C.S. Assistant Clinical Professor of Surgery, University of Illinois College of Medicine, Chicago. Foreword by Warren Cole, M.D. — First Edition, 1951. Cloth $22.50. J. B. Lippincott Company, Philadelphia, London, Montreal.

The author in this work has presented quite an innovation. The whole of anatomy is covered from the surgical view point, and yet the clearness of the presentation in text and illustration makes it a very scientific anatomy as such. Surgical technic of important operations is presented, concurrently with the anatomy.

The style is clear and refreshing. The text is "easy reading", the illustrations are clear, accurate and it is a relief to note the large size of lettering for the labels; this feature makes it easy to find and identify the various details of a "drawing". The illustrations

(*Continued on page* 88)

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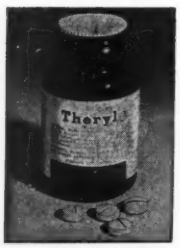

Many other dramatic cases reported.

1. Hoffman, Murray M., Ill. Dent. Jl., 19:439 445 (Oct., 1950)

2. McNealy, Raymond W., Ill. Med. Jl., 97:150 (Mar., 1950)

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BOOK REVIEWS (Continued)

are done by one artist, working evidently in close cooperation with the author himself. There are many cuts of cross sections presented in a most effective manner to show point of section and relative positions, adding greatly to detail.

The author is to be congratulated for this work. All surgeons will find it quite an addition to their armamentarium. Its presentation of the subject from the view of literary technique is of no small caliber.

For conciseness the work is adequate. For accuracy the book is complete. For correlation and integration of surgery and anatomy the book is unusual.

This volume as prepared is a work that adds greatly to one's conception of anatomical facts and enables quick resumé of any point in question.

C. P. B.

SCOLIOSIS PATHOLOGY, ETIOLOGY AND TREATMENT: By Samuel Kleinberg, M.D. Attending Orthopaedic Surgeon, Hospital for Joint Diseases: Consulting Orthopaedic Surgeon, Lebanon Hospital, Maimonides Hospital, Hospital for Special Surgery, New York City; Lecturer in Orthopaedics, New York University Medical School; Member American Orthopaedic Association; Member American Academy of Orthopaedic Surgery; Fellow, American College of Surgeons; Fellow, New York Academy of Medicine; Member, American Academy of Compensation Medicine. Baltimore, THE WILLIAMS & WILKINS COMPANY 1951. Price $7.50.

This is a most comprehensive monograph on scoliosis and has been completely revised by Dr. Kleinberg since his original works was published nearly 25 years ago.

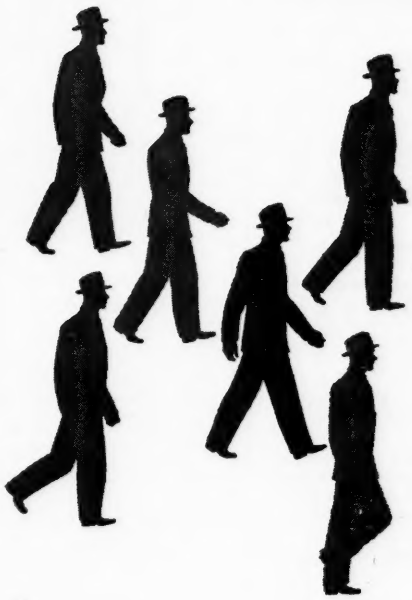
It is conveniently divided into two parts. Part I covers anatomy, embryology, physiology, pathology and etiology. Part II covers all phases of treatment: namely preventative and corrective, gymnastic and surgical.

The illustrations have been selected with care and are very informative. The arrangement is logical and concisely enumerative, as for example he lists 7 causes for functional scoliosis and 12 known origins of structural scoliosis, plus many cases of unknown origin. The exercises Dr. Kleinberg has found most useful thru the years, are presented, and he fully describes 37 developmental or symmetric and 15 corrective or asymetric exercises.

J. W. P.

THE DIAGNOSIS AND TREATMENT OF ADRENAL INSUFFICIENY, by George W. Thorn, M.D., Hersey Professor of the Theory and Practice of Physic. Harvard Medical School, and Physician-in-Chief, Peter Bent Brigham Hospital, Boston, with the collaboration of Peter H. Forsham, M.D., M.A. (Cantab.), Instructor in Medicine, Harvard Medical School, and Junior Associate in Medicine, Peter Bent Brigham Hospital, and Kendall Emerson, Jr.,

(*Continued on page* 90)



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1. Towse, R. C., Berberian, D. A., and Dennis, E. W.: *New York State Jour. Med.*, 30:2033, Sept., 1950.
2. Berberian, D. A., Dennis, E. W., and Pipkin, C. A.: *Am. Jour. Trop. Med.*, 30:613, Sept., 1950.

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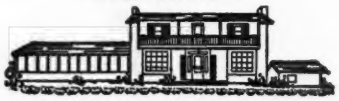

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BOOK REVIEWS (Continued)

M.D., Assistant Professor, Harvard Medical School and Senior Associate in Medicine, Peter Bent Brigham Hospital. Second edition. Cloth. $5.50. Pp. 180, with 25 tables and 32 figures (2 in full color). Charles C. Thomas, Publisher, Springfield, Illinois, 1951.

The excellence and deserved popularity of this book is indicated by the fact that this is the second edition. The first came out in 1949. It is divided into 17 chapters as follows: I. Introduction, II. Physiological Considerations, III. Chemical Consideration, IV. Types of Adrenal Cortical Insufficiency, V. Signs and Symptoms of Addison's Disease, VI, Laboratory Findings in Addison's Disease, VII. Screening and Tolerance Tests in Adrenal Cortical Insufficiency, VIII. Outline of Diagnostic Program, IX. Differential Diagnosis of Adrenal Cortical Insufficiency, X. Adrenal Cortical Hormone Preparations, XI. Treatment of Adrenal Crisis, XII. Treatment of Chronic Adrenal Cortical Insufficiency, XIII. Treatment of Patients with Addison's Disease Undergoing Surgery, XIV. Toxic or Undesirable Reactions Encountered in the Use of Adrenal Hormone Preparations, XV. Clinical Experience in the Use of Synthetic Cortisone Acetate (11-dehydro-17-hydroxycorticosterone, XVI. Prognosis, XVII. Conclusion, and a Bibliography.)

Our increasing knowledge of adrenal functions makes it imperative that surgeons and internists as well as endocrinologists familiarize themselves with this field. Laboratory procedures now generally available enable us to asses with some degree of assurance the level of adrenal function. Curiously, the advances which enable us to do these things only confirm what the older endocrinologists (SaJous, Sergent, et al) suspected.

This would be a valuable addition to any physician's library.

J. H. H.

OBSTETRICAL PRACTICE. Edited by Alfred C. Beck, M.D. — Professor Emeritus of Obstetrics and Gynecology, State University of New York, College of Medicine at New York City; Formerly Professor of Obstetrics and Gynecology, Long Island College of Medicine; Formerly Obstetrician and Gynecologist-in-Chief, Long Island College Hospital; Consultant in Obstetrics and Gynecology, Long Island College Hospital, and Norwegian Hospital, Brooklyn, N.Y., U. S. Haval Hospital, St. Albans, N.Y., Vassar Brothers Hospital and St. Francis Hospital, Poughkeepsie, N.Y. Fifth Edition. Baltimore: THE WILLIAMS & WILKINS COMPANY, 1951. Price $10.00.

This is the 5th Edition of an old standard Obstetrical Textbook. It has been extensively revised and rewritten. This edition contains 106 new illustrations and an appendix of 22 reproductions and X-rays; 309 of the old illustrations have been redrawn.

The book is well written and organized; the subject

(*Continued on page* 92)

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BOOK REVIEWS (Continued)

matter clearly and logically presented.

The chapters on Posterior Positions of the Occiput, Face Presentation, Breech Presentation, Tranverse Presentation and Compound Presentation are masterpieces of clarity and conciseness, the pictorial and outline summary which concludes the discussion on each type of presentation is extremely valuable.

J. W. P.

ORTHOPAEDIC SURGERY. By Walter Mercer: M.B., Ch.B., F.R.C.S. (Edin), F.R.S. (Edin). Professor of Orthopaedic Surgery, University of Edinburgh; Director of Orthopaedic Services to the South-Eastern Regional Hospital Board, Scotland. With a Foreword by Sir John Fraser, Bart., K.C.V.O., M.C., F.R.S. Ed., F.R.C.S. Ed., M.D., Ch.M., F.R.A.C.S., F.A.C.S. Regius Professor of Clinical Surgery in the University of Edinburgh. Fourth Edition. Baltimore: THE WILLIAMS & WILKINS COMPANY, 1950. Price $10.00.

This book can be classified as another text on orthopaedics. It contains none of the brilliance which characterizes the writings of Watson-Jones. It is the painstaking efforts of a British general surgeon gleaned from a series of lectures and clinics on orthopaedic subjects to British medical students.

J. W. P.

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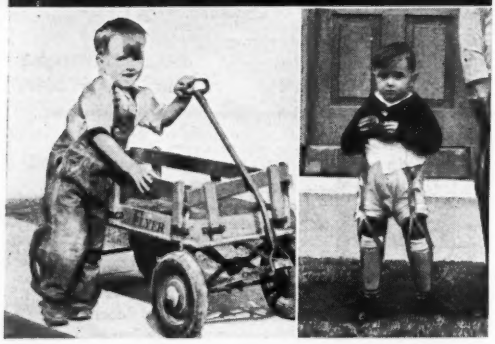

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BOOKS RECEIVED

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

AN ATLAS OF' NORMAL RADIOGRAPHIC ANATOMY: By Isadore Meschan, M. A., M. D., Professor and Head of the Department of Radiology, University of Arkansas School of Medicine. With the assistance of R. M. F. Farrer-Meschan, M. B., B. S., (Melbourne, Australia). 593 pages, 1044 illustrations on 362 figures. Philadelphia and London: W. B. Saunders Company, 1951. Price $15.00.

PSYCHOSOMATIC GYNECOLOGY: Including Problems of Obstetrical Care: By William S. Kroger, M. D., Assistant Clinical Professor of Obstetrics and Gynecology, Chicago Medical School; and S. Charles Freed, M. D., Adjunct in Medicine, Mount Zion Hospital, San Francisco, California. 503 pages. Philadelphia and London: W. B. Saunders Company, 1951. Price $8.00.

AUTOPSY DIAGNOSIS AND TECHNIC: By Otto Saphir, M. D., Pathologist, Michael Reese Hospital; Clinical Professor of Pathology, University of Illinois Med-

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Theodore Fields, B. S., Consulting Physicist
RADIOACTIVE IODINE IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE THYROID

ical School, Chicago. Foreword by Ludvig Hektoen, M. D., Third Edition, Revised and Enlarged. Illustrated. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers. $6.00.

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ARTHRITIS AND THE RHEUMATIC DISEASES. By Philip Lewin, F. A. C. S., F. I. C. S. Professor and Chairman of the Department of Bone and Joint Surgery, Northwestern University Medical School; Professor of Orthopedic Surgery, Cook County Graduate School of Medicine; Senior Attending Orthopedic Surgeon and Chairman of Department, Michael Reese Hospital; Attending Orthopedic Surgeon, Cook County Hospital, Chicago. Foreword by Morris Fishbein, M. D. New York, Toronto, London, McGraw-Hill Book Company, Inc. $3.50.

THYROID FUNCTION AND ITS POSSIBLE ROLE IN VASCULAR DEGENERATION. By William B. Kountz, M. D. Assistant Professor of Clinical Medicine, Washington

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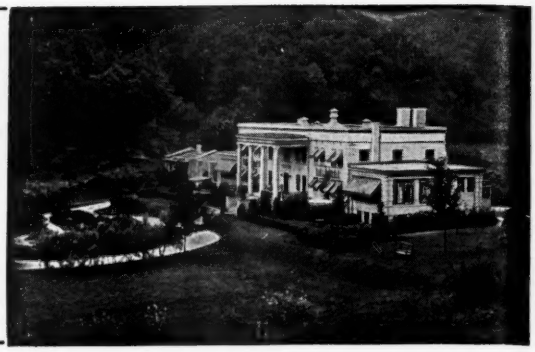

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STATISTICS FOR MEDICAL STUDENTS AND INVESTIGATORS IN THE CLINICAL AND BIOLOGICAL SCIENCES. By Frederick J. Moore, M. D., Associate Professor of Experimental Medicine, Frank B. Cramer, B. A., Research Fellow, and Robert G. Knowles, M. S., Research Associate, Department of Experimental Medicine, University of Southern California School of Medicine. 11 figures; 16 tables; 113 pages; September 19, 1951. $3.25.

BODY MIND AND SUGAR. By E. M. Abrahamson, M. D., and A. W. Pezet. New York: Henry Holt and Company. $2.95.

711 MEDICAL MAXIMS. By William S. Reveno, M. D., Assistant Professor of Clinical Medicine, Wayne University Medical College, Attending Physician, Harper Hospital, Consulting Physician, Detroit Receiving and Highland Park General Hospitals, Detroit, Michigan. With forewords by Frederick A. Coller, M. D., and William J. Kerr, M. D., Charles C. Thomas, Publisher, Springfield, Illinois. $3.75.

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ROENTGEN ANATOMY. By David Steel, M. D., St. John's Hospital and Evangelical Deaconess Hospital, Cleveland, Ohio. Charles C. Thomas, Publisher, Springfield, Illinois.

A BIBLIOGRAPHY OF INFANTILE PARALYSIS. 1789-1949. With selected abstracts and annotations. Prepared under direction of The National Foundation for Infantile Paralysis, Inc. Edited by Morris Fishbein, M. D., Editor, Excerpta Medica, and Ella M. Salmonsen, Chief, Medical Department, John Crerar Library, Chicago, with Ludvig Hektoen, M. D. Editor Emeritus, Archives of Pathology. Second Edition. Philadelphia, London, Montreal, J. B. Lippincott Company.

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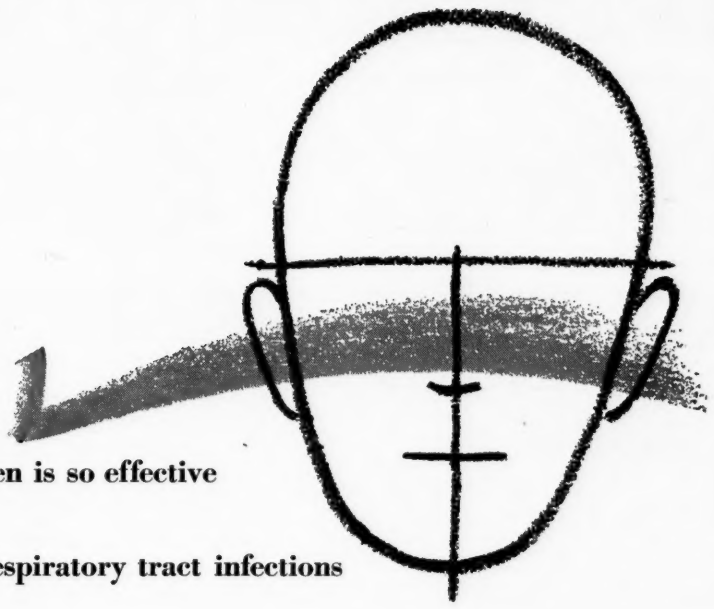

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